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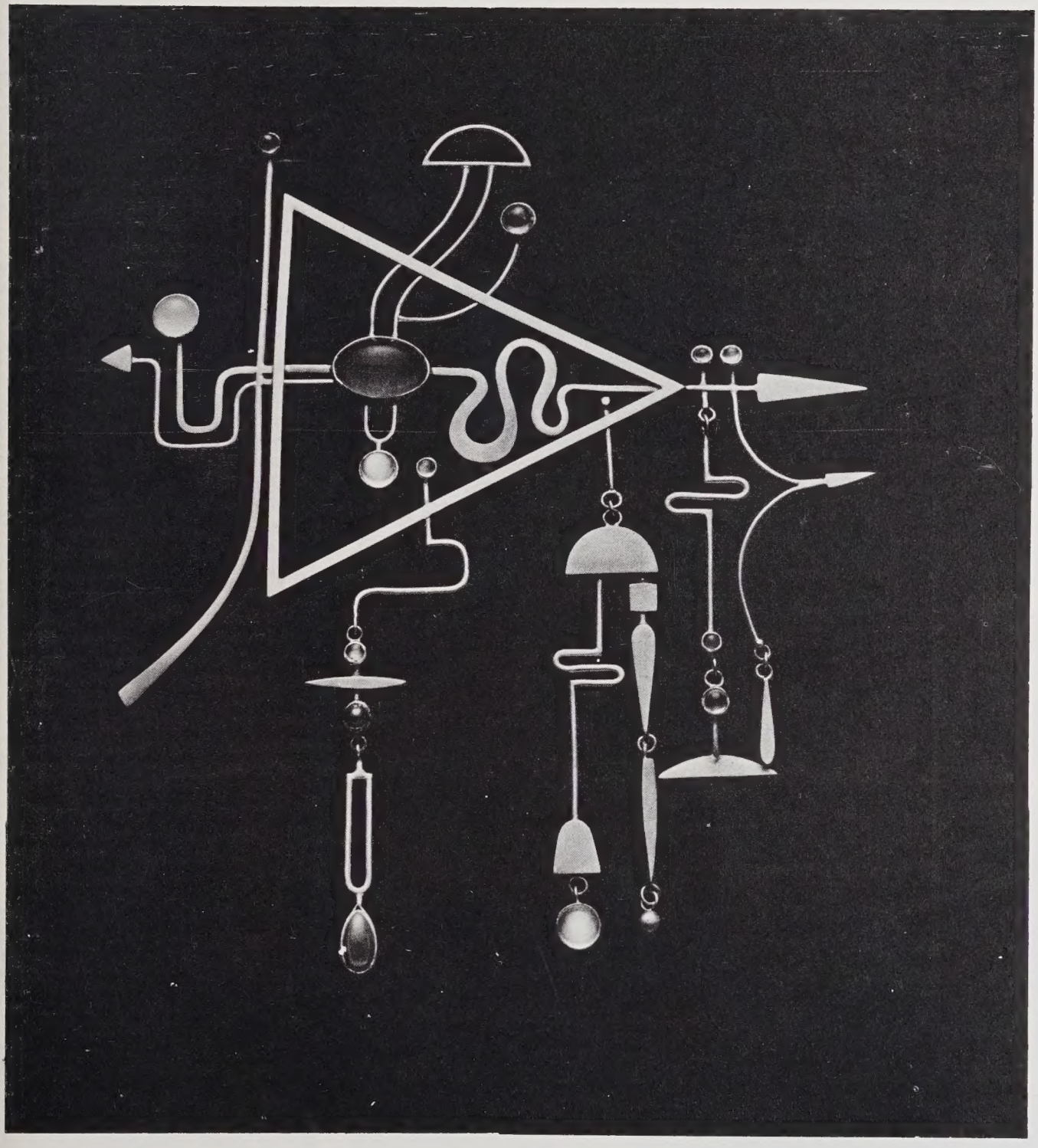
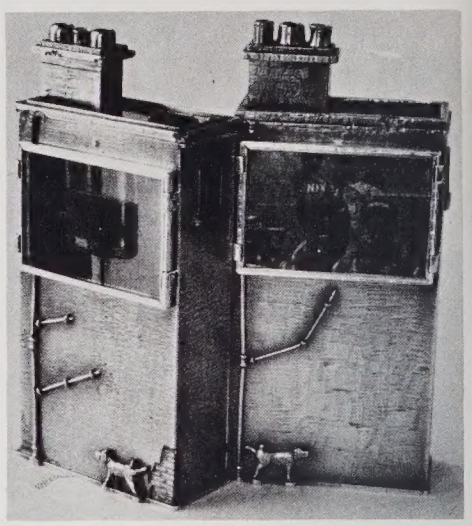


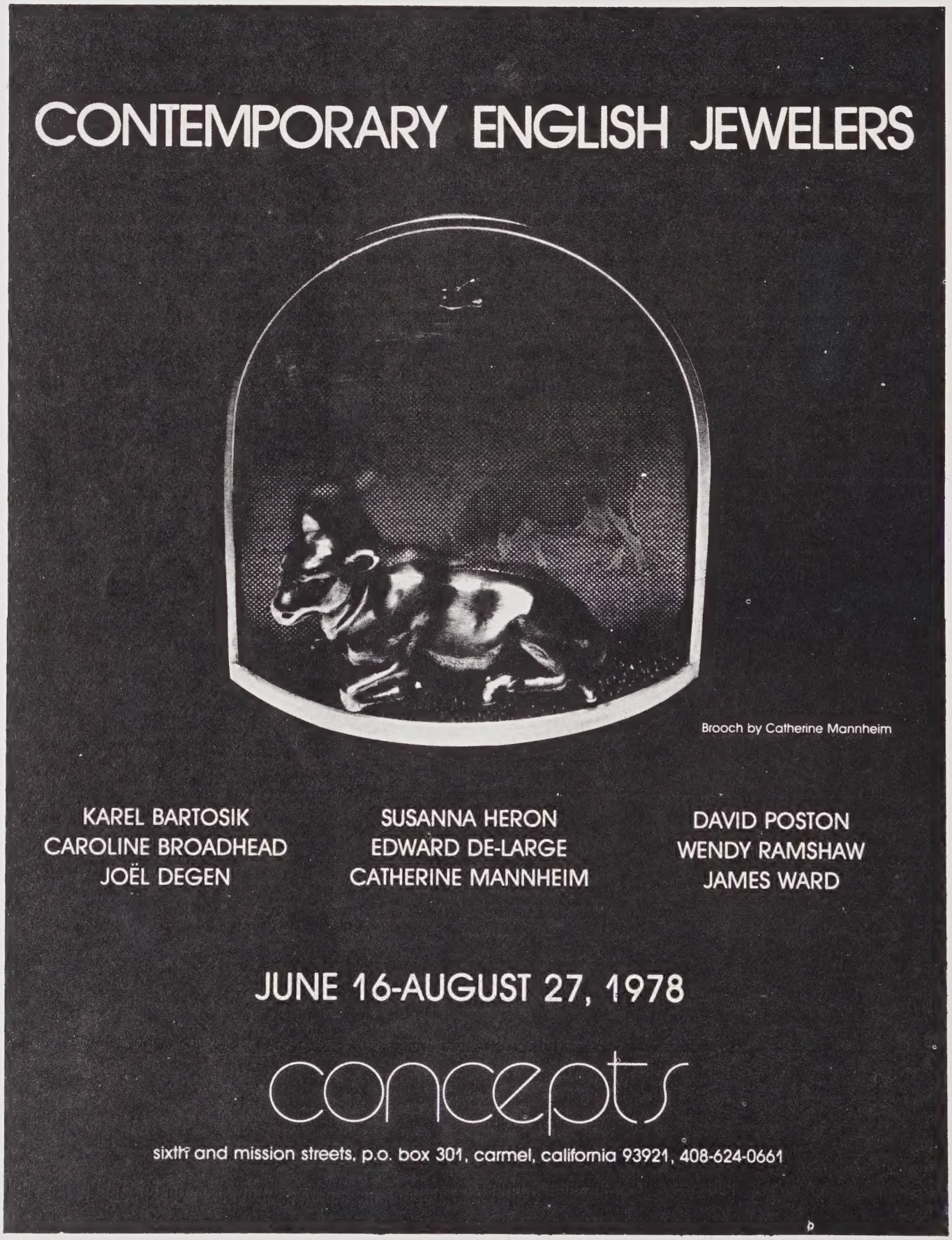
Wendy Ramshaw, Brooch
18k gold, sapphires, moonstone, agate and pale amethysts
–photo by M. Hallson

CONCEPTS EXHIBITION



K.T. Bartosik, silver and gold, 40 to 50 mm hh, photos, acrylic sheet and enamelled

CONCEPTS
by Douglas Steakley



Concepts is a new gallery located in Carmel, CA at the corner of Sixty and Mission. It is a gallery of contemporary metalsmithing.

This exhibition is being coordinated by Cecil Jospe – who is an American who has taken a great interest in promoting contemporary English jewelry. She just finished an exhibition in Brussels and this will be her second. Cecil is coordinating the exhibition in England while the Concepts Gallery is coordinating it in the U.S. The show opens June 16 and will run until Aug. 27. Each exhibitor will have six or seven pieces. Exhibitors include:

Karel Bartoski
Caroline Broadhead
Rosy Burman
Joel Degen
Jan Goddy
Susanna Heron
Edward de-Large
Catherine Mannheim
Roger Morris
David Poston
Wendy Ramshaw
James Ward

Susanna Heron shall be attending the opening reception and is expected to give some type of informal talk. As you can imagine, we feel very fortunate in being able to show the work of these people – several of them usually do not become involved in group exhibitions but have agreed to do this through sheer persuasion. This exhibition shall give Americans a unique opportunity.

Catherine Manheim, "Parrot Pendant", silver on 18k gold, red feather

MICHIGAN SILVERSMITHS
April 4-28, 1978

MICHIGAN SILVERSMITHS GUILD
by Karen Miller Thomas

What is believed to be the largest exhibition ever assembled for public display of fine gold and silver art objects created by Michigan silversmiths was exhibited throughout April in the main office exhibit area of Detroit Bank and Trust, Fort St. at Washington Blvd., in downtown Detroit.

Assembled for the bank by the Michigan Silversmith's Guild (MSG) to mark the Guild's 30th anniversary, the huge show featured more than 170 pieces, many of which were done by nationally and internationally recognized silversmiths.

Some of the silver and gold objects shown were creations from the artist's "world" of imagination and fantasy, such as the cloisonne eggs done by Maureen Wicke, a working artist for the past 20 years, whose creations have been shown at the Detroit Institute of Arts and other galleries throughout Michigan. Other pieces in the bank show were quite functional and finely crafted, such as the wine decanter and cups made of sterling silver, ebony and ivory done by John Wittersheim, an MFA candidate at Cranbrook Academy of Art in Bloomfield Hills, MI.

According to Marcia Gorra-Patek, who received a MFA degree from Cranbrook, is a member of the board of directors of MSG, and has exhibited nationally, "the display at the bank featured a variety of artistic themes, superb craftsmanship and a broad range of techniques. Interestingly, several of the pieces in the show took the artisan more than one year to complete."

Some of the metalworking techniques utilized by the artists in the large bank exhibit included enameling, casting, fabricating, forging, and raising.

Ms. Gorra-Patek explained that "many of the pieces are specifically intended to convey an illusion of sensuality or generate a sense of mystery in the viewer. Still others, such as the finely crafted pieces of jewelry, were designed to increase the allure of the person who wears them by distinctively enhancing some aspect of their appearance.

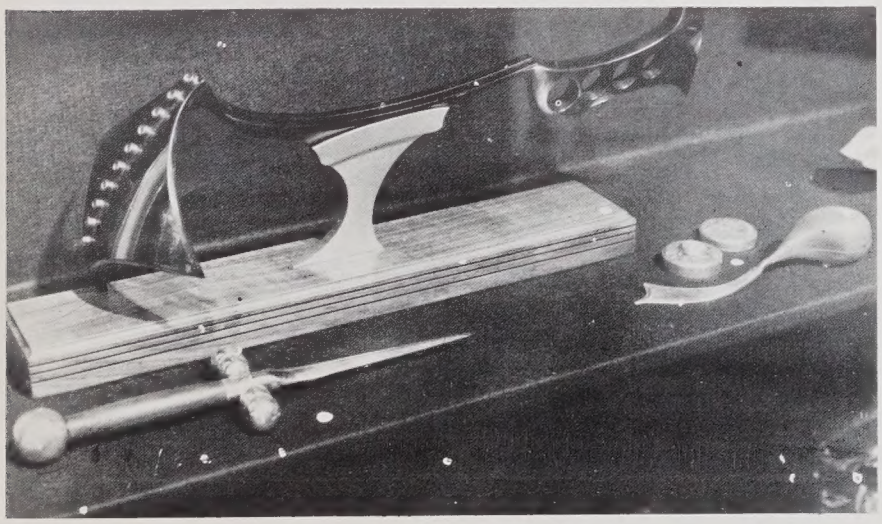
"In most instances, the cost would be prohibitive to try to mass produce the jewelry being shown so that viewers truly saw collector's pieces of unusual beauty and unique design," she added.

A number of pieces shown at the bank have taken top honors at national competitions while others have been written about and photographed for use in texts by leading authorities on silversmithing.

The show included such unusual items as a hemlock cup and a reliquary containing a moth pupa "encased" in the top with a magnifying lens placed over the insect to improve viewing of it.

As Ms. Gorra-Patek explained, "There is something for everyone to enjoy at the show."

The display included serving pieces, flatware, holloware, necklaces, rings, brooches, earrings, jewel-encrusted daggers, sculptural designs, candle holders, coffee and tea services, pill boxes and constructions.



The Michigan Silversmith's Guild exhibition at the Detroit Bank and Trust in downtown Detroit marks the 30th year of the Guild's existence. The Guild was founded in 1948 by six Detroit area jewelers, many of whom had studied with Greta Pack.

Over the years the Guild has served as an example for the formation of other crafts guilds in Michigan and has played an integral part in the creation and support of the Michigan Crafts Council.

The purpose of the Guild is to broaden the technical, aesthetic and historical horizons of its members and to acquaint the public with the field of metalsmithing.

Associate membership in the Guild is open to anyone and active membership is restricted to those who, upon submission of three pieces of work to the membership jury, are invited to become active members. At present, there are approximately 50 active and 50 associate members.

The Guild sponsors six to eight lectures, slide presentations, and/or workshops during the academic year. These activities are wholly supported by the dues and are hosted by either The Center for Creative Studies in Detroit or Cranbrook Academy of Art. Recently effort has been made to coordinate the activities with other institutions in the area to better utilize the services of our guest artists. This effort has proved successful in securing guest speakers and will be more fully implemented in the future.

The exhibition at the Detroit Bank and Trust exhibits the diverse interests, ages and backgrounds of the members. The 170 pieces range from a contemporary forged iron candlestick, raised vessels and sculptural forms, stilettos, fabricated containers of contemporary and conventional design to all types of jewelry — no uniform style is evident.

The Detroit Bank and Trust, with its superior exhibition space and its own staff to mount and publicize the shows, offer great advantages in a community which no longer provides for craft exhibitions in public facilities (The Detroit Institute of Art), and where galleries are unwilling to assume exhibitions in which many objects are not for sale.

The response from the Bank, the public and the media has been enthusiastic and plans for next year's show are underway for the same location.

Thelma Coles, "Road Cut", bracelet, silver, copper, plexiglass, 3-1/8"x 3-3/8"x3-3/8"

Lane Coulter, Landscape Pin, silver, ebony, bronze, mirror, 3"x2½"x1"

LANDSCAPE: NEW VIEWS

by Nancy Neumann Press

Mention the word landscape to average museum-goers, and they will think of painting. They recognize the gentle pastorales of Corot and the atomospheric impressions of Monet. This exhibition deals with landscape, but not with painting. The landscapes presented here are rendered in what are called craft media: clay, fiber, glass, metal, enamel. They are not paintings but translations of the painter's theme manifested in materials new to the landscape experience in art: new views of an old subject.

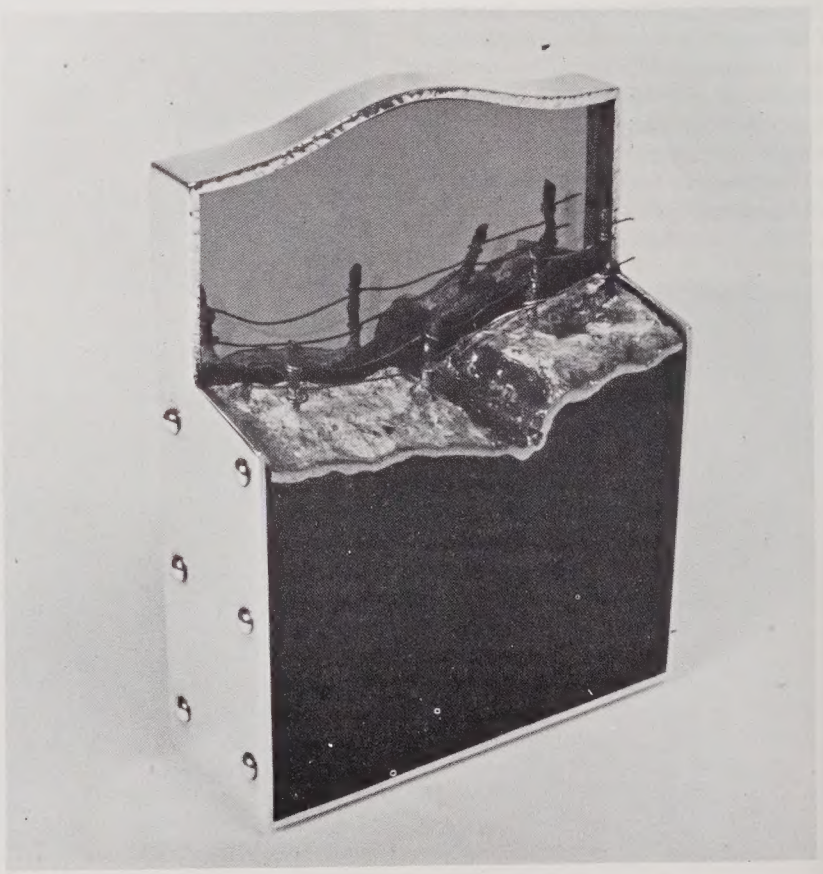
Landscape did not appear as a main theme in Western art until the Middle Ages. In early paintings, landscape was background, a setting for events, illustration or decoration. Until artists were able to SEE landscape and gather its single elements into a unified whole, it could not become a main topic in Western art; and the ability to perceive landscape in a holistic manner developed very slowly. It finally emerged from a variety of sources in sixteenth-century Europe. The term landscape originated as a painter's term during this time, and it referred to the act of rendering natural scenery.

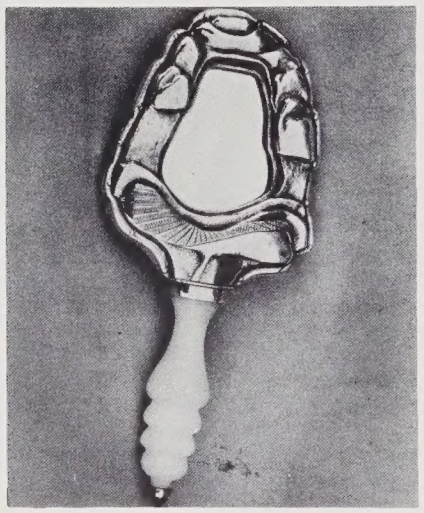
In China, a deep reverence for nature resulted in the creation of monumental landscapes expressing a "meeting and union of two characters—the character of Nature and the character of Man." Painting and landscape were nearly synonymous.

During the middle years of the nineteenth century, such artists as Thomas Cole, Frederic Church, Asher B. Durand, John F. Kensett, and George Inness developed an American style of landscape painting, which was named the Hudson River School for the locale in which many of the artists worked. The movement began with idyllic paintings celebrating features of the landscape and ended in 1880 with works that, because of the advent of industrialization and the resulting pessimism about the land, expressed the mood of the land rather than a sense of place.

In the twentieth century, such painters as Cezanne, Dali, Avery, Rothko, using cubism, surrealism, expressionism, and abstraction, further developed landscape to bring us to the present wide diversity of landscape interpretation.

While the surrealist and abstract painters were at work, craftspeople were forming societies and reviving the tradition of handmade objects. This organized activity grew out of the Arts and Crafts Movement, which was started in England in the 1860's by William Morris, whose concern for crafts was in direct opposition to the age of the machine. Morris's influence reached this country about 1900. The American craft movement then spread westward, earmarked by an involvement with natural materials and concern for craftsmanship. While many painters had mastered technique and were able to concentrate on new forms of expression, the craftspeople were hampered by a dearth of technical knowledge and were forced to devote most of their creative energies to the mastery of their media. Until World War II brought European master craftspeople and their expertise to this country, the American craftsperson was usually self-taught. Then Trude Guermonprez, Gertrud and Otto Natzler, and Marguerite and Franz Wildenhain brought to the attention of the American artisan the Bauhaus philosophy: to "connect industrial methods and goals to the arts and to the work of the individual craftsmaker." The end of the war brought a growth of educational programs in the crafts and an influx of new and synthetic materials.

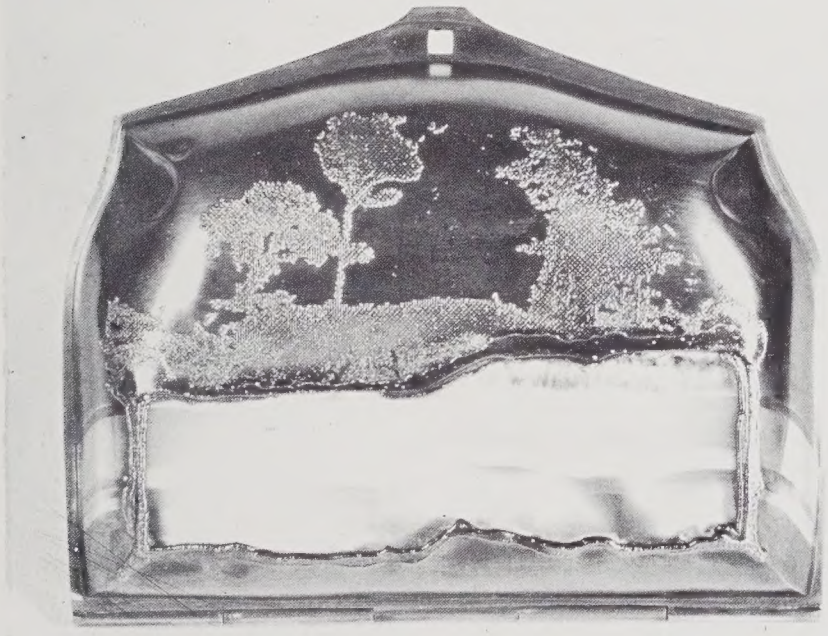


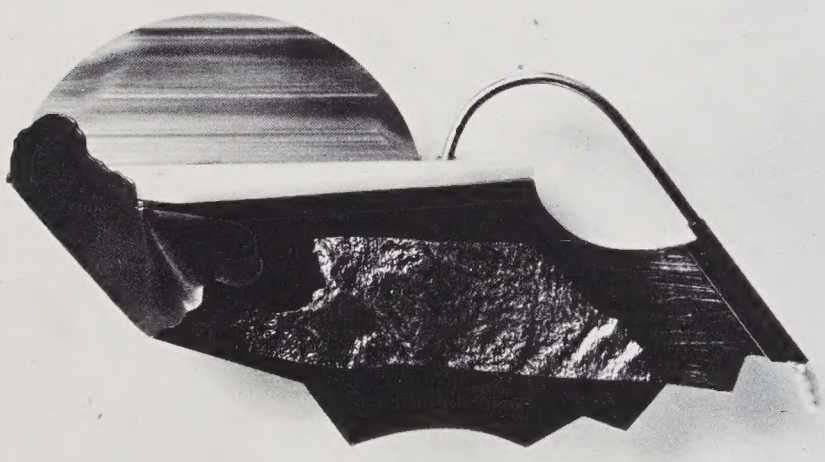


Barbara Minor, Hand Mirror, front, silver, delrin, jade, 14 kt. gold, 7"x3"

Eleanor Moty, "Landscape", handbag, sterling silver, agate, leather, 4"x5¼"x2"

Robert Ebendorf, "Land-Space", pin, silver, gold, stone, pearl, 2"x2¾" –photo by Bob Hanson





In the 1950's, Peter Voulkos broke all conventions in his approach to clay, allowing free sculptural expression to enter into the creation of a craft object. Wharton Esherick, using wood, and Lenore Tawney, working in textiles, were close behind Voulkos with expermentation in their media. The impact of that threesome was strongly felt by craftspeople and noticed for the first time by painters. The way was open for new forms of creativity. The dividing line between art and craft began to disappear.

The exhibition consists of pieces by only a small number of the artists who are working in so-called craft media and dealing with the landscape as subject, but it provides an intriguing cross section of the current attitude toward the land as expressed by the American artisan. Various points of view are manifest in these pieces: panoramas, aerial views, pastoral scenes. Scale ranges from the monumental to the intimate. Expressions of fantasy, humor, and social comment are apparent. Materials employed include the traditional clay and glazes and contemporary cast resin and Plexiglas.

The pieces in this exhibition were collected to illustrate the forms that landscape can take and to offer the viewer new thoughts on the environment that surrounds him. Chinese landscape painter Kuo Hsi has written,". . . there are landscapes in which one can travel, landscapes which can be gazed upon, landscapes in which one may ramble, and landscapes in which one may dwell." This exhibition has all of these.

"Landscape: New Views", a national invitational exhibition of contemporary works in clay, fiber, glass, metal, enamel, and mixed media, opened on Jan. 17, 1978, at the Herbert F. Johnson Museum of Art, Cornell University. It included 68 pieces dealing with the subject of landscape in both functional and sculptural forms. Twenty objects were works in metal, 13 of them were jewelry forms.

Included in the exhibition were works by artists and craftspeople who are leaders in their media. In addition, a number of newcomers to the mainstream had works included, some who work exclusively with landscape motifs, and others who have simply touched upon it in the course of creative development in their respective media. Metalsmiths and enamelists who were represented are Deborah Aguado, Katie Cleaver, Susan Cohan, Thelma Coles, Lane Coulter, Toby Davis, Robert Ebendorf, Kathryn Regier Gough, William Harper, Correen Kaufman, Ulle Lepasaar, Barbara Minor, Eleanor Moty, Harold Persico Paris, Hiroko and Gene Pijanowski, Barbara Samson, Lynda Watson, and Ginny Whitney.

Organized by Nancy Neumann Press, curator of crafts at the Johnson Museum, the exhibition was supported in part by a grant from the National Endowment for the Arts. An exhibition catalog with 58 illustrations is available from the museum for $4.00 plus 50 cents for postage and handling.

SPECIAL EXHIBIT OF THE "ACOMA JEWEL" AND OTHER PIERRE TOURAINE CREATIONS
April 29-May 6, 1978

A special exhibit of the "Acoma Jewel" (designed and made as a special tribute to the Pueblo people of Acoma) and other creations by Pierre Touraine were on display at the Heard Museum from Saturday, April 29 through Saturday, May 6.

Pierre Touraine's early years were spent in Marseille, France, where he served his apprenticeship in the jewelry trade. His career really began in Paris, where he studied anatomy at the Academy de Montmartre and Monparnasse.

An expert jeweler, Mr. Touraine created many pieces of jewelry for European film personalities and Royalty. He was one of the jewelers selected for the coronation of George VI of England. He designed accessories for some of the top Paris Maison de Couture, including Lanvin, Patou, Maggie Rouf and Schapareilli.

In 1938, Pierre Touraine immigrated to the United States. While in New York City, he was selected to do the intricate gold sculpturing for Salvador Dali's collection of jewels exhibited in 1942. He also made the platinum mountings for the Jonker and Vargas Diamond Collection of Harry Winston.

In 1943, he went to California to cut tiny jewel bearings for instruments used in the war effort. At the end of the war, he established his own business in Los Angeles until 1960 when he moved to Arizona with his family.

The beauty of the desert in Arizona has served as an inspiration for other works of art, including the "Phoenix Jewel", now part of the collection of the Phoenix Art Museum.

Pierre Touraine's work can be seen in museums throughout the country and Europe, as well as his studio in Scottsdale.

ERIC SPILLER
by Ralph Turner
Crafts Advisory Committee Gallery, London, England

The exhibits are all brooches. They are made of aluminum, acrylic and polyester resin.

TECHNICAL NOTES

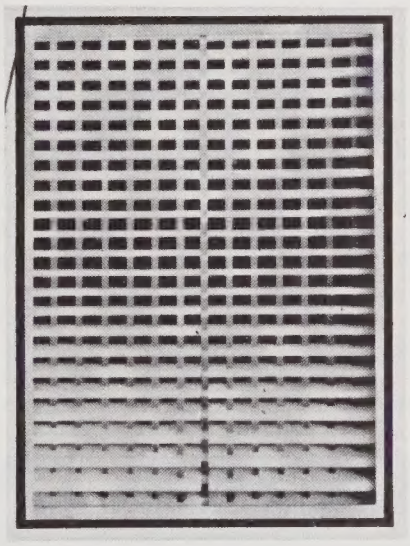
Eric Spiller starts each brooch with a piece of acrylic sheet, on to which he pours coloured resin. When it is set hard, he cuts parallel slots of varying depths with a slotting saw in a milling machine — working straight on to the material without any preliminary marking out, the order and rhythm of lines having previously been worked out graphically and mathematically. The reverse is then worked in the same way but the slots are cut at right-angles to the front, creating openings at intervals. Strips of thinner gauge acrylic sheets in various colours are inserted into some of the grooves. Design and technique are tightly bound up, the highly disciplined linear forms demanding the use of precision machine tools.

Eric Spiller makes the one-piece frame from square or rectangular sectioned aluminum tube, fitting a piece of sheet to complete the back. The round brooches are made of aluminium rod of which the centre is cut away. Into this he drops the acrylic grid-shaped piece which is made to fit exactly. The frame is a very necessary part of the design: it creates rigidity and protects the fragile edges. The aluminum frame is finally anodized to give the required finish.

The recent work of Eric Spiller is in line with that of a relatively small but active group of jewellers in Britain who make jewellery to communicate ideas, rather than produce a series of systems for showing glittering symbols of status and wealth. Their ideas question the accepted definition of jewellery in general. This activity is no momentary whim of fashion, for their ideas relate to an ancestry which is shared, in social and artistic terms, with developments in other visual arts in this country. The contemporary jeweller acknowledges this ancestry, without retrospection, as a brief look at the present situation reveals. Ideas and aesthetic principles relate to the world as it is. The jewellers complement, reflect and employ sculptural, architectural, graphic and technological developments. They interact with, and are at one with, the most progressive of jewellers in Germany and Holland in broadening and changing the possible concepts of jewellery.

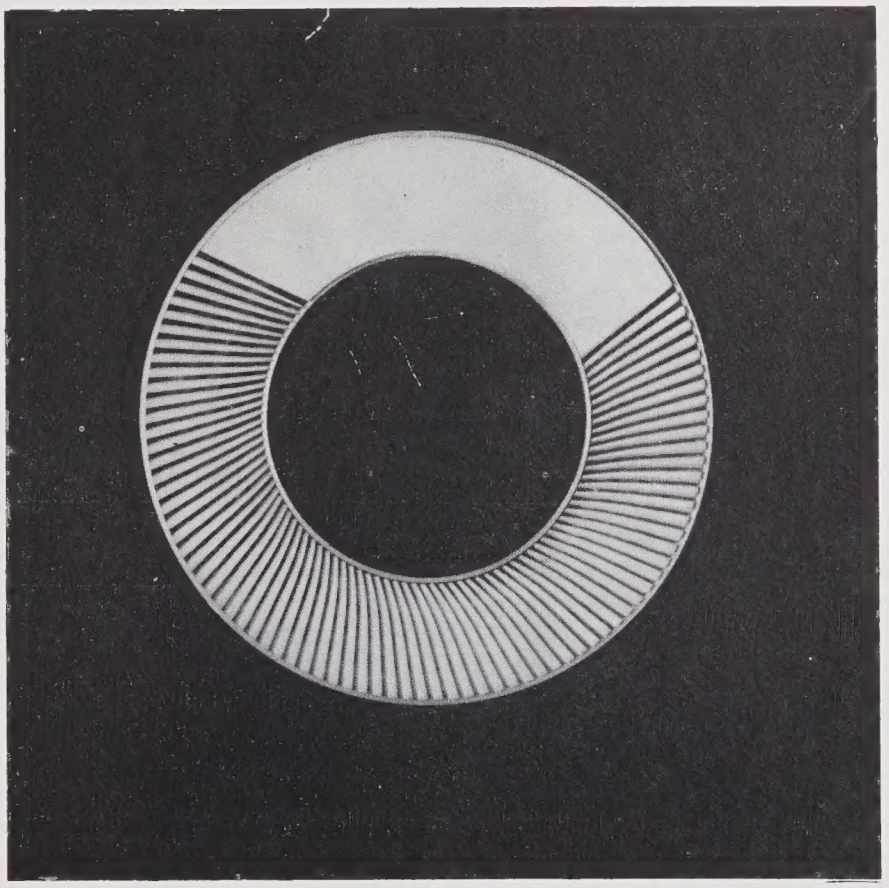
Eric Spiller is exploring and experimenting with materials and machinery which are relatively new to the process of jewellery making and which he finds stimulating. His choice of materials is less restrictive in terms of cost than traditional alloys and has greater flexibility and range. These materials are not used as substitutes, nor are they inferior because of their value or their popular usage. They are employed for their individual characteristics and their element of challenge.

Since his student days at the Royal College of Art, Eric Spiller's jewellery has been produced from a self-imposed discipline and analytical regulation of his ideas and work programme. His jewellery has always reflected this formula in an organised and logical manner. The ideas develop slowly, one leading to the next in a clear and narrative style. This present collection of work is structured with rhythmic grids that diffuse light and color, augmenting the two while additionally employing the movement of the body to create an illusion of movement within each piece. There are no moving parts within the brooches themselves. Eric Spiller's jewellery is not seen to advantage in a showcase where it remains static, but comes to life when being worn, creating an exciting visual communication between wearer and spectator. The result of these experiments is jewellery of subtlety, beauty and sensitivity.



Eric Spiller, pin brooch

Eric Spiller, brooch



BALTIMORE WINTER MARKET, FEBRUARY 15-18, 1978, AT THE BALTIMORE CIVIC CENTER
by Sybil Robins

(Sponsored by American Craft Enterprises, Inc., a subsidiary of the American Craft Council)

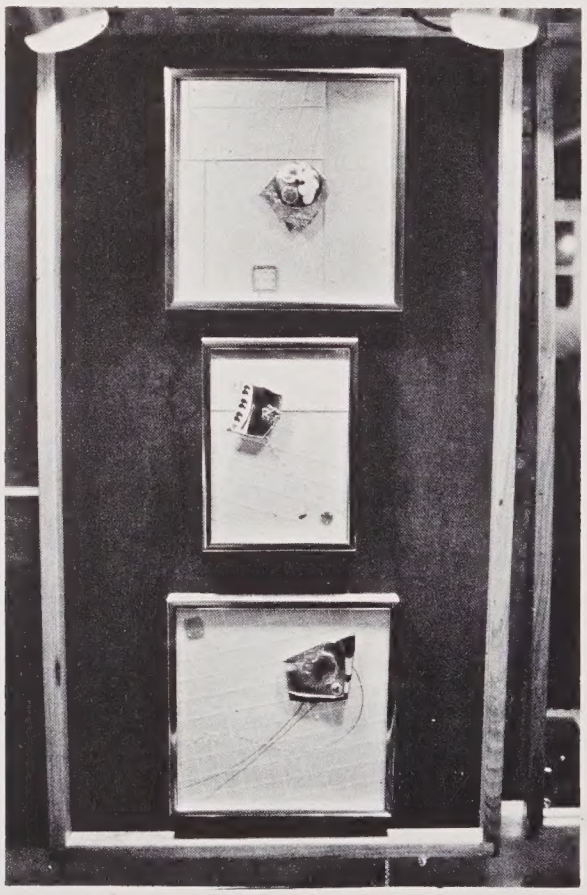
The second annual winter market, open to wholesale buyers on Feb. 15 and 16, and to the public on the 17-19, consisted of 344 booths, including about 90 metalworkers showing enamels, forged iron (blacksmithing), holloware, gold and silver jewelry, pewter, knives and sculptural metalwork.

Most of the displays were of the standard craft fair production type of jewelry and traditional forged metal utilitarian objects. Imaginative hand-forged cheese knives and tiny cleavers of high carbon steel with brass dragonhead handles were shown by Glen Gardner. Metalsmith Richard Sexstone also presented unusual use of metal in a display whose piece-de-resistance was a small table of English brown oak burl shaped in two segments like a Rorshach ink blot, with wrought iron sinuously dividing the two halves and forming an organic shaped base.

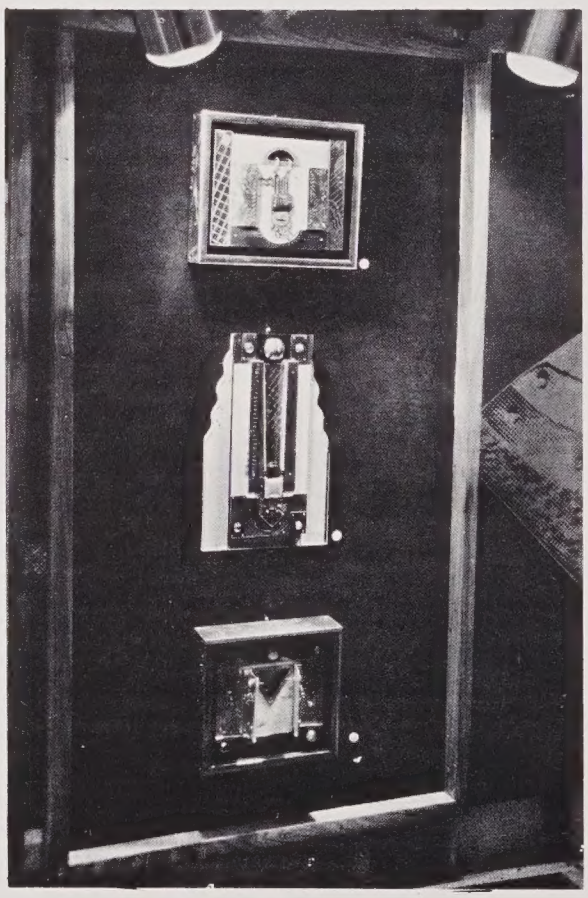
The Kurpp/Bryan studio showed unique wall-hung metalworks in addition to their consistently imaginative jewelry constructions. Allen Bryan's new series of wall constructions set in polished aluminum frames are comprised of removable, wearable pins of colorful acrylic resins in lyrical graphic patterns delineated by silver wire cloisons, inspired by Japanese fighting kites. The pins are hung against an incised plexiglass background behind which is seen a suggestion of a painted sky. Boldly angled black lines demarcating the tense lines of the kite strings are offset by thin 14k gold kite tails.

S. Ann Krupp uses painting and goldsmithing techniques to create environments for wearable pendants or earrings, with a distinctly Byzantine flavor. In one construction, two tiny doors made of 14k gold plate over brass support a pair of long earrings made of angelskin coral, gold and watermelon tourmaline. The doors swing open to reveal a painted sky of fluffy clouds. Framing the doors are architectural elements embellished with cabachon aquamarines, moonstones and citrines set in irregular bezels reminiscent of a Medieval reliquary. Other framed wall-hung constructions house pendants of lapis or turquoise juxtaposed against gold and silver elements.

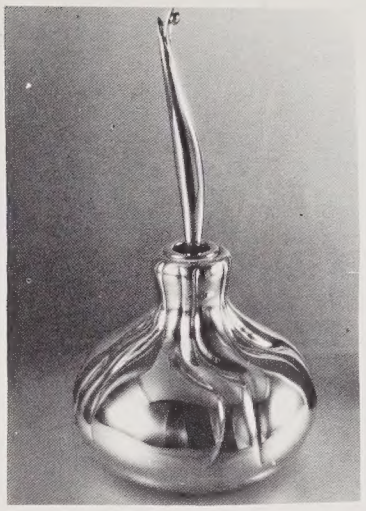
Other metalwork noteworthy at the Baltimore Winter Market include exquisitely delineated cloisonne enamel jewelry by Catherine Regier Gough, pendants combining gold inlaid with malachite, lapis, turquoise, opal and melon shell by Ulle Lepasaar, "folded" metal gold and sterling jewelry by Toby Davis, and dimensional wall constructions of enamel on copper with mica and found objects by Shirley Rosenthal.



Allen Bryan, wall hung constructions combining wearable pins, acrylic resins and sterling.
–photo by Dick Pompian



S. Ann Krupp, wall hung constructions that house pendants or earrings, 14k gold, sterling, lapis, turquoise and brass.
–photo by Dick Pompian



Lois Betteridge, "Ink Bottle With Stopper/Ink Loader", sterling –photo by Keith Betteridge

LOIS BETTERIDGE'S METALS: EATON'S ART GALLERY (TORONTO, ONTARIO) MARCH 1-18, 1978

by Rosemarie Schein Taylor

(courtesy of Canada Crafts, Feb./Mar., 1978, Page Publications)

The exhibition of Lois Etherington Betteridge's work at Eaton's Art Gallery marks the culmination of more than 25 years intimate involvement with metals. The range of this involvement is represented here by the inclusion of hammer formed lead sculptures, sand-cast bronze letter openers and cire-perdue gold rings, although most works in the show are silver.

Lois Betteridge is a master silversmith, deeply committed to her art and uncompromising in her striving for excellence. Her dedication is evidenced by her prodigious output. Her works have been shown in over 70 exhibitions in North America, Great Britain and Japan and the list of her awards and honours is long and impressive. Amongst the very small number of silversmiths in this country who raise holloware, Betteridge stands out through her achievement of aesthetic values far beyond more technical virtuosity. With a versatility in the medium spanning many techniques, she has regularly produced holloware for ecclesiastic and secular use. The present collection constitutes her credo: moving metal. She has brought the demanding techniques of raising, chasing and repousse to a high degree of perfection. The successful integration of these techniques into innovative contemporary forms is the high point of this exhibition.

Chasing and repousse, like raising, allow the silversmith to explore fully the malleability of silver. The chased surface has a sumptuous appeal; it brings an object to life through constantly changing plays of light reflecting from the bas-relief. Among the works displaying this time-consuming surface refinement is a spice shaker of fluted form, chased over all in a cascading ripple pattern. An ink bottle leading the eye upwards to the soaring shape of the ink dipper , a carved soapstone base cradling pen and bottle. In two open bracelets, designs are developed so that the focal points are in high relief, giving a rich lush feeling. These examples of chasing and repousse (and I have only mentioned a few) are treasures for two reasons: first, they are masterfully executed; secondly, such work is very rare nowadays. Mrs. Betteridge has contributed considerably to the revival of interest in these fine techniques both through her work and by sharing her knowledge of them in lectures and workshops.

The 40 works in this collection cover a time span of 21 years, although more than half were completed in the last three years, 16 of them in 1977. The inclusion of earlier pieces affords the viewer an insight into the artist's progression from tightly executed traditional forms to the free-flowing, undulating and soaring shapes of recent works. The forms convey a highly sculptural feeling, yet many are removed from the realm of pure sculpture by their fulfillment of function. It is intriguing to see how she meets the added challenge of solving practical problems without compromising purity of form. For example, a honey pot of round, inviting contours is accompanied by a dipper which neatly transfers and dispenses the honey; the integration of aesthetics and functions is complete.

Living intimately with works of such visual and tactile reward should indeed add grace and pleasure to one's daily life. It is a pity that the viewer cannot handle the works on display, for the smoothly flowing shapes of the vessels, the sweeping curves of the serving spoons and letter openers, the delicately chased surfaces of containers and jewellery provide great tactile pleasure. This is due not only to the form's aesthetic logic, but also to unstinted hours of hand finishing that Lois Betteridge invests in every work.

Another important aspect of this artist's philosophy is that the object should continue to reward the people living with it. Delightful surprises await them: stones set into the stoppers of salt and pepper shakers; a chased design in the bottom of a sugar bowl; a baroque pearl inside the foot of a brandy snifter, to mention just a few.

For the viewer who is daily accosted by a myriad of mundane and often ugly objects, this exhibition will be a moving experience; one that lifts the spirit.

WOMEN ARTISTS: CLAY, FIBER, METAL

by Sybil Robins

"Women Artists: Clay, Fiber, Metal", a national invitational exhibition of 158 works by 115 craft artists sponsored by the Women's Caucus for Arts and the Bronx Museum of the Arts, was held at the Bronx (New York) Museum, Jan. 25-Feb. 24, 1978. This was the second national invitational exhibition sponsored by the Women's Caucus for Art, an independent organization affiliated with the College Art Association, whose national convention was being held concurrently in New York.

Exhibiting artists in each medium were selected by a panel of curators. For metal, they were Glenda Arentzen, Arline Fisch, Eleanor Moty, Mary Ann Scherr and June Schwarcz, who invited the artists to submit slides from which the works to be shown were chosen. The Bronx Museum is located in the high ceilinged spacious entry lobby of the Bronx County courthouse. The exhibit opened with a gala dance performance "Choreographing the Object," attended by Mrs. Joan Mondale.

Thirty-four metalsmiths presented 64 works in the exhibit, ranging from rings, brooches and neckpieces to holloware to Cheryll Leo-Kaneko's sculptural piece titled, "Sleep now and when you awake your swaddling clothes will be the bloody banners of someone else's dream." Housed in a plexiglass case, the piece in pewter, bronze, procelain and acrylic suggested an upended gorgon's helmet of pewter with acrylic wings standing on large eagle claws resting on a black satin cushion. Nestled inside could be seen a baby's head swaddled in grey satin.

Also memorable were Adine Kaufman's "Open Form," an organic holloware piece of copper, brass and sterling; June Schwarcz' brooding "Bowl No. 659" of electroplated copper with enamels, with one side slashed open; and Auta Braganza-Davis' small-scale "Receptacle II" in sterling footed with black plastic.

Among the jewelry, Mary Ann Scherr's massive neckpiece of concentric flat sterling sections fastened with a lapis "button" contrasted with Mary Lee Hu's delicate wirework in "Neckpiece No. 19" and "Headpiece No. 5" of fine and sterling silver. Nilda Fernandez Getty showed two elegant sterling neckpieces, including "La Mer" with its suggestion of the ocean's waves in blue and green enamels. Other wearable neckpieces included "Continuous Form No. 111", an assymetrical elongated sterling pendant by Ruth P. Laug and Arline Fisch's powerfully massive "Pectoral" of silver gilt, leather and feathers with pearls bordering a central cameo.

A magnificent contemporary brooch by Auta Braganza-Davis, "Pin Series No. 1" juxtaposes sterling, acrylic, ivory, moonstone and a biwa pearl in a serene composition. Frances Welles' "Brooch No. 105" merges sterling, black chromed brass and delrin in a handsome arched shape, while Arline Fisch's tongue-in-cheek "Parade of Elephants" combines silver, copper, agate and pearls in a brooch rimmed with a row of tiny elephants. Jane Booth's belt/neckpiece, "Ovals and Finials" crisply contrasts oval sterling discs alternately with vertical pyrex rods. Helen Shirk's angular bracelet of silver, brass, copper, tourmaline and quartz and Gayle Saunders' sinuous neckpiece of sterling, 14k and 18k gold and mother of pearl were also outstanding jewelry entries.

Merrily Tompkins' "Snatch Purse" is a witty reticule of tan leather, embellished lavishly with sterling, champleve enamel, beaver fur and ermine tails, that hangs from a velvet wrist cord. Other beautifully-conceived non-jewelry items are Gayle Saunders' elaborate serpentine pen, stand and inkwell of sterling and gold touched with amethyst, and Helen Shirk's geometrically graphic hand mirror of silver, copper, brass and acrylic.

To fully take in, comprehend and savor the multitude of forms, concepts and techniques presented in this ambitious exhibition requires considerable viewing time, a task made difficult by the museum's courthouse hours and the lack of advance publicity. However, negotiations were in progress for the exhibit to travel for two years under the auspices of the Gallery Association of New York. With advance announcement and more accessible locations, the exhibit will hopefully reach the audience it deserves.

Dwight H. Bennett, Jr., "The American Flyer Cane 1978", copper, brass sterling, citrines and vermilion wood

Nich Logsdon, Decanter with Vessel Stopper, sterling, 18k gold, 24k gold plate

INDIANA CRAFTS '78 WINNERS ANNOUNCED: EXHIBITION OPENS

by Albert Louer

Leslie Leupp, assistant professor of metalsmithing and jewelry design at Ball State University, Muncie, IN, is the $500 grand prize winner in the Indianapolis Museum of Art's biannual craft exhibition, Indiana Crafts '78.

Leupp's award was among more than $1500 in total prize money presented at the members' and artists' preview of the exhibition, Tues., Apr. 18 at the Museum. The exhibition, the 9th in a series of juried exhibitions highlighting works by craftsmen who are past and present residents of Indiana, remained until May 29 in the third floor galleries of the Museum's Krannert Pavilion.

Mr. Leupp's grand prize entry is titled, "Brooch No. 1," and is a piece of jewelry in a contemporary design made of copper, silver, brass and plastic. The unusual and colorful brooch, a combination of angular lines and curves, measures 7½" in length.

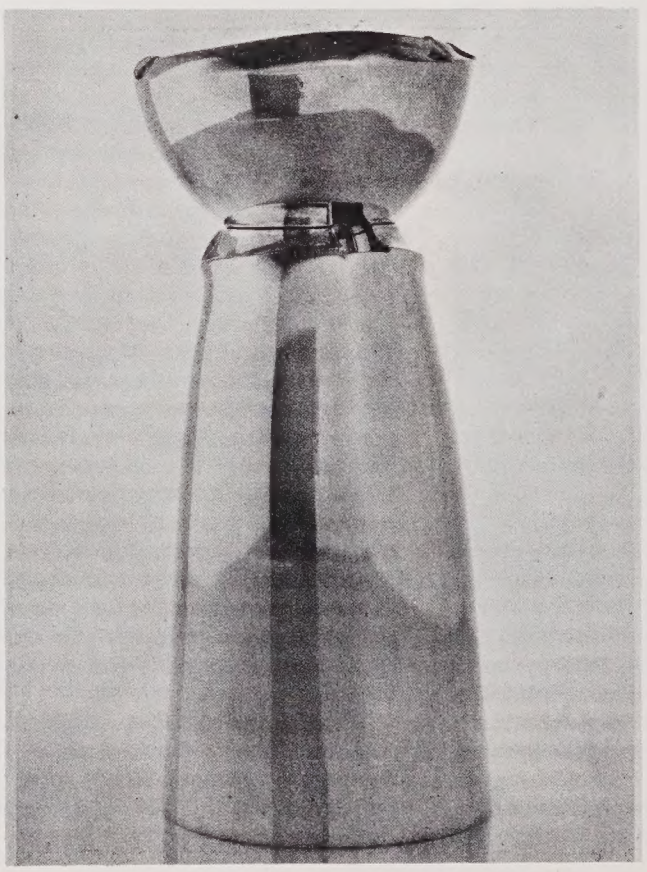
Leupp's "Brooch No. 1" was one of 417 entries from which 166 pieces representing 119 Indiana artists were selected for the exhibition. Metals and textiles dominated the entries which also included ceramics, tiles, ceramic sculpture, wood, glass, enamels, plastics, and other combinations of materials.

The works submitted have been produced since July 1975, and have not previously been exhibited at the IMA.

Juror for the exhibition was Ray Pierotti, director of the Arrowmont School of Arts and Crafts at Gatlinburg, TN, and associate professor of design and craft history at the University of Tennessee, Knoxville.

Co-sponsored by Indiana Artists-Craftsmen, Inc., Indiana Crafts '78 alternates every other year with the exhibition, Indiana Painting and Sculpture. Both attempt to identify and recognize the best work of all Indiana artists.

Other prize winners included: Dwight H. Bennett, Jr., Terre Haute, Alliance of the Indianapolis Museum of Art Award ($200) for "American Flyer Cane, 1978" in copper, brass, sterling, citrines, and vermilion wood.



MONEY FOR THE ARTS AND CRAFTS . . .

(courtesy of Artist-Craftsmen Information Bulletin No. 14, March 1978)

Two more bills dealing with the problems of contributions for charitable and cultural purposes have been introduced in Congress.

The Kemp Arts and Humanities Bill — *H.R. 9985* has been introduced by Rep. Jack Kemp (R-NY) to provide a tax credit and additional tax deduction for contributions to the arts and humanities. It provides a tax credit equal to 50% of the contribution or gift to qualified organizations whose primary purpose is support of arts and humanities. Maximum credit is $200 per year for individuals or $400 for married couples. It also provides for a deduction equalling 120% of a contribution. Congressman Kemp believes it would provide an increased flow of funds from the private sector to "financially strapped arts and humanities organizations as well as the artists and educators they support. It answers the demands of liberals that more funds flow into the arts and humanities. It answers the demands of conservatives that increased financial support for the arts and humanities not be under the control of Federal entities It answers the demand of the arts and humanities community that support fostered from Washington not be dependent upon the authorization and appropriation processes or upon the grant procedures of the Federal entities It answers the demands of the people not only for vibrant arts and humanities programs, but also for a lower effective rate of income taxation. . . it answers the demands of the business community that they be given an equal break for their support of the arts and humanities."

Arguments against this particular bill include the Treasury Department's estimate that the provisions of H.F. 9985 would cost $250 million annually in lost revenue to the Federal government, that other equally worthy causes would expect similar treatment, that direct government subsidy (as we experience now) results in allocations to activities truly in the public interest, and that the addition of the special tax incentives in H.R. 9985 would increase the complexity of our tax laws.

For more information or to express your opinion, write to your own Congressman and to Rep. Jack Kemp, Washington, DC 20515.

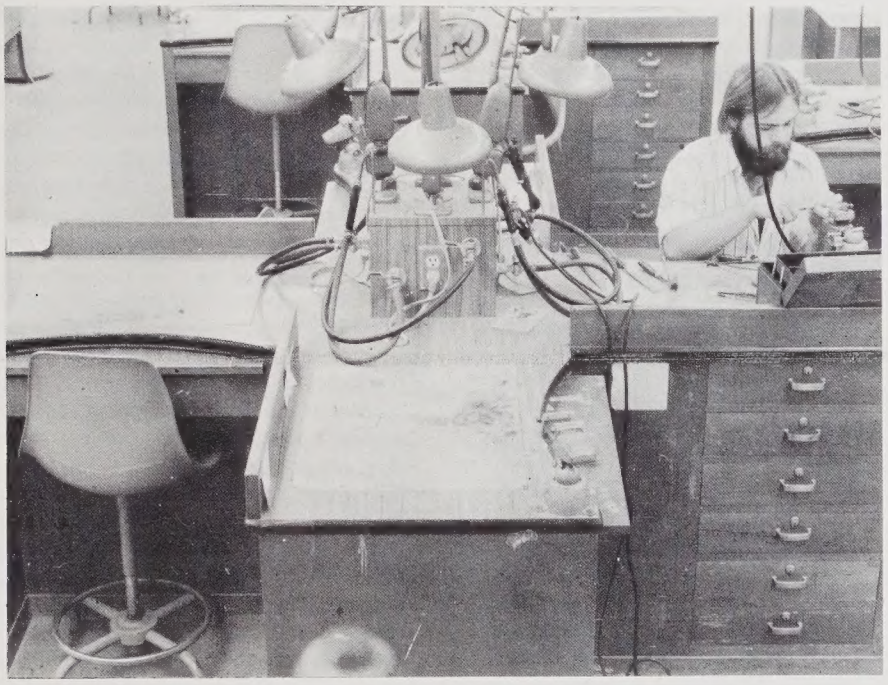
CALIFORNIA COMMUNITY COLLEGES

by Marcia Lewis

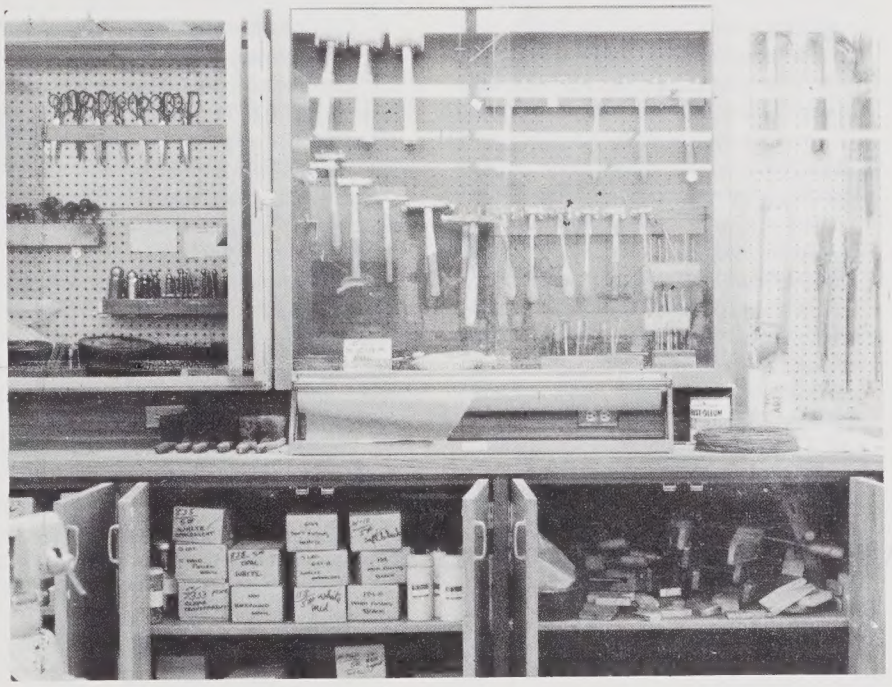
California (particularly the L.A. area) has more excellent community colleges per square mile than anywhere in the country. And few, outside of the state are aware of them because their outreach is concerned exclusively to their own individual communities which, together with the state, support them financially. But they are responsible for delivering the first two years of a college-level education (ie. the foundation levels) which then transfer to the four-year schools.

El Camino College in Torrance has been an outstanding college for more than two decades. And the jewelry-metalsmithing studio is not to be believed. There are fully functioning and degree granting graduate schools in this country who couldn't hold a match to the one El Camino sports. It was designed and built by Mr. Richard Oliver who has been the full-time faculty person for the subjects for 23 years. Take a look at the pictures of hand tools and sophisticated equipment. I found the bench system was really unique. They are designed to accommodate four students at one time, with storage drawers enough for five different classes. Each bench is like a cluster and there are seven of them which thus accommodates 28 students at one time, if necessary. With a flexible circular flourescent lamp for each place in the cluster and one flex-shaft for each cluster — well, it's hard to fault. And they fit in a surprisingly small square foot area of the studio. Anyway, I thought it was a terrific design for students.

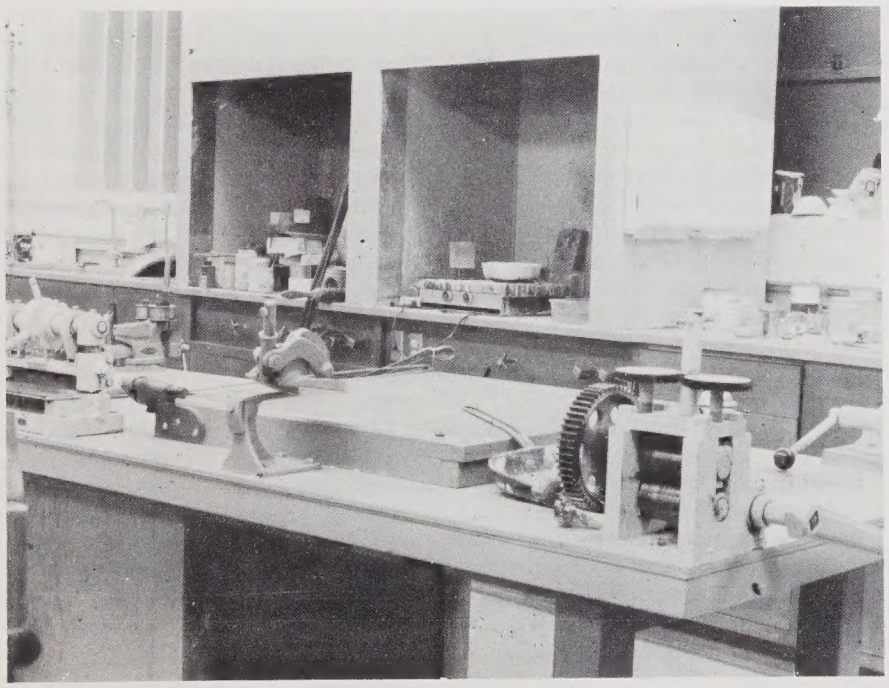
Student working at four space bench.



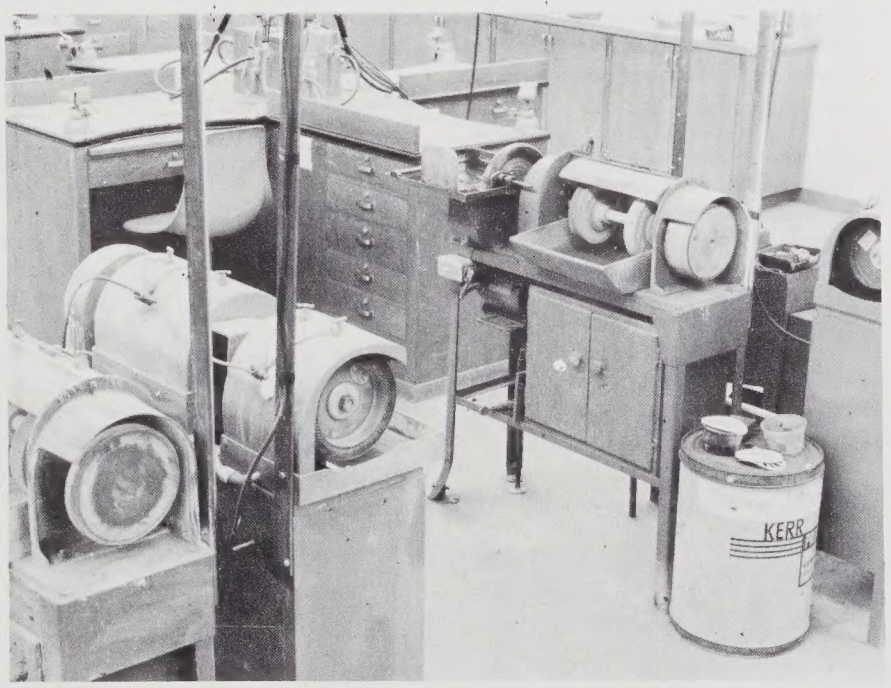
Tools.



Wire mill; shear; vent hoods for acids.



Lapidary equipment.



SCHISM
by Peter Gainsbury

Accurately reported or not, I am delighted that Chuck Evans has picked up my remark "American schools don't teach design," Comments, Goldsmiths Journal No. 17.

The point of making such admittedly sweeping statements is to initiate discussion and I hope we shall see plenty of response, as Mr. Evans requests.

For those not present at Longwood last September, I must put the statement into its context. We were discussing schools of jewellery and silversmithing and if I did not actually say so, the implication was clearly "design in relation to the needs of the American jewellery and silverware industry."

I must confess to having made this kind of statement many times, the last being as recently as March 27 at Cranbrook, and I am completely unrepentant. My tongue may have been in my cheek, but it was not twisted.

Of course American art schools teach design and perusal of any issue of the "Goldsmiths Journal" shows this. Let us take pages 2 and 3 of No. 17. Seven beautiful, well-designed pieces, but I submit that not one of these could possibly be produced as viable production jewellery and not one could be sold in a retail jewellery store at a price reflecting the value of the materials and labour costs on a normal commercial basis.

I know you are all artists not to be tainted by sordid commercialism, but you have to eat and your country has a large and efficient jewellery and silverware manufacturing industry, which desperately needs well-trained designers.

Why have such organizations as the Manufacturing Jewelers and Silversmiths of America, the Fashion Institute of Technology and the Gemological Institute of America found it necessary to set up courses in jewellery design, when every other university in the USA is producing "jewellery designers'? Because "American schools don't teach design (for the industry)".

Yes, I do know about the brave effort of Signature V and the poor attitude of some manufacturing jewellers towards designers, so what is SNAG doing about it?

I have had the pleasure and privilege of visiting many of the leading schools of jewellery and silversmithing in the US and I have seen the great wealth of talent, which I feel is largely going to waste when you DO have a public which "is not as sophisticated (in design application) as the European.

One of the reasons for the complete schism between your schools and the industry in the area of jewellery is plain to see. In the US, metalwork appears almost invariably to be taught in faculties of the fine arts. Jewellery is an applied art, which, in the UK and elsewhere in Europe, is usually referred to as a section of three-dimensional design, in company with ceramics, furniture, fashion, glass, and perhaps most important, industrial design. Jewellery and silversmithing is seldom taught in departments of fine art in European schools.

In consequence of this fine art link students are encouraged to produce works of fine art with little regard to function or wearability and no regard at all to the possibility of producing good design for general consumption.

PEWTER SHOWS ITS METTLE
by Ruth Robinson
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Pewter, the metal our colonial ancestors used extensively for tableware, has made a comeback in the 70's. Once known as poor man's silver, it has been taken up by the major silver companies as a hedge against the high cost of sterling. Undoubtedly some of the present popularity of pewter is due to the interest of our past generated by the Bicentennial.

Ironically, while silver sales have held their own, pewter is no longer the bargain it once was. Tin, the major component of the alloy, almost doubled in price last year.

However, apart from Wallace Silversmiths of Wallingford, Conn., who are phasing out their pewter line, the business seems to be flourishing. To Burt Boardman of J.C. Boardman & Company, also in Wallingford, the price increase merely "enhances the metal and puts it into a more glamorous state."

While reproductions and colonial-style designs comprise the bulk of the pewter on the market — candlesticks, tankards, sugar bowls, cream pitchers, porringers, coffeepots, and the like — there are also individual pewtersmiths working in a contemporary vein.

The material they work with is different from that used in the heyday of American pewtersmithing from the 1750's to the 1850's. The alloy then contained large quantities of lead, which accounted for the dark look commonly associated with the metal.

Today's pewter, consisting of 91 to 3 percent tin, 6 to 7 percent antimony and 1 to 2 percent copper, is bright and shiny in appearance and so much like silver it combines nicely with sterling.

Standards for the metal are set by the American Pewter Guild, whose 48 members include manufacturers, suppliers and craftsmen. A guide for the uninitiated would be the touchmark "ATC" in a shield, signifying that the manufacturer is a member of the guild and subscribes to guild standards for purchased materials.

Apparently, though, even guild membership is not an absolute guarantee of quality. Mr. Boardman resigned two years ago because he said some member companies were using lead in ornamental pieces. A child, he pointed out, could get lead poisoning from chewing on a pendant, candlestick or figurine.

A craftsman-member is Shirley Charon of Ridgefield, Conn., author of "Modern Pewter" published by Van Nostrand Rheinhold.

Miss Charron has more orders for her contemporary pieces than she can fill in the time left from jer job teaching crafts at the Norwalk (Conn.) High School.

Hilda Kraus of Westport, Conn., on the other hand, finds time to make pewter and cloisonne boxes to be sold for as much as $150 and $200 at The Elements, 766 Madison Ave., near 66th St., and in Greenwich, Conn., and free-form salad servers ($70) at the Kruger Gallery, 842 Madison Ave. near 69th St. Both artists studied under and were profoundly influenced by the late Frances Felten, a Connecticut pewtersmith who was a fundamental force in promoting the case of pewter as an art material.

While Connecticut and Massachusetts are traditional centers for pewtersmithing, New York City's own thriving pewter industry should not be overlooked. Godinger Silver in Manhattan, for example, makes sophisticated gift items that are sold by stores like Bonwit Teller and Bloomingdale's.

Over in Brooklyn there is Queens Art Pewter, which prides itself on its highly polished products, as well as Windsor Silver, whose pewter line now accounts for 80 percent of its business, and Empire Silver, manufacturers of traditional designs in both satin and shiny finish.

A representative selection of the pewter available today can be found at department stores, jewelers and gift shops in the city. The Metropolitan Museum of Art has reproductions by the Stieff Company of Baltimore; Altman's carries Gorham flatware as well as International Silver and Windsor products; Lord & Taylor stocks pewter by the Kirk Corporation of Baltimore, in addition to Empire, Bloomingdale's also has Windsor, Empire and Kirk. Reproductions by the Woodbury (Conn.) Pewterers (from a $3.50 napkin ring to a $75 flagon) show up at Fortunoff and Abraham & Straus, while the handforged work of Old Newbury Crafters of Newburyport, Mass. can be found at Brighton Court, 1242 Madison Ave. near 89th St., at prices ranging from $22 for a pin box with fish top to $386 for a covered soup tureen.

TECHNOLOGY AT GOLDSMITHS' HALL

The Worshipful Company of Goldsmiths

In his annual report Mr. Peter Gainsbury, the Director of Research, reports that during the year ended 30th September 1977 arrangements with Intergold for co-operation on research and technical advisory services have been negotiated, and an international consortium has been formed to support research on silver.

RESEARCH

The appointment of Mr. Brian Taylor as Research Officer has enabled research activities to be expanded and further sponsorship for research is actively being sought.

The main research effort has been concentrated on gold during the year, work continuing on 18 carat white golds, low carat casting golds and the measurement of the colour of gold alloys. This work has been commissioned by Intergold and carried out under supervision of the Foundation by various research sub-contractors. Much other work in this area has been carried out in feasibility and background studies for further work.

An international consortium representing Denmark, Sweden, Germany, Holland, France, Spain, and Italy as well as the Royal Mint and the three British trade associations concerned with silver, are to finance research on the tarnishing of silver. Although the ultimate object is the development of a tarnish resistant electrodeposit, or possibly a similarly resistant standard silver, the first year will primarily be devoted to developing a reliable test procedure and a quantitative means of assessing tarnish.

During the year work initiated by the Technical Department on the oxidation of standard silver during melting was taken over by the Imperial College of Science, and a feasibility study on solders for the manufacture of silver articles down to 800 standard was undertaken for the Standing Committee of the International Convention on Hallmarks.

Further research themes on silver have been discussed with potential sponsors in the U.S., and a feasibility study into possible methods of reducing the production costs of sterling silver flatware is being carried out at the suggestion of the Silver Institute in Washington.

DEVELOPMENT

The Development Officer, Mr. Chris Walton, as part of his technical advisory activities has given much consultancy to suppliers of casting equipment and materials, and manufacturers of melting furnaces and gas torches, which has been indirectly of benefit to the industry.

Many enquiries direct from the industry have been more time-consuming than in the past, involving the production of complete casting plant layouts for example, or requests for assistance in reorganisation and modernisation of other manufacturing facilities.

DESIGN DEVELOPMENT

The Technical Department has organised a successful design development project at the Royal College of Art on the colouring of refractory metals such as titanium, niobium and tantalum. While it is acknowledged that these metals are not precious, they are relatively easy to colour by anodic oxidation, and the experience gained will be invaluable if work is later put in hand to develop a similar technique for colouring silver.

SILVER STRENGTHENS OTHER MATERIALS

(courtesy of The Silver Institute, March 1978)

Magnesium, copper, lead and tin are used for widely different purposes but they have an interesting thing in common: adding a little silver to them makes each of them stronger, harder and more resistant to deformation under heat and stress.

For the gear cases of airplane jet engines, magnesium has been a preferred metal, durable up to the 200 C which has been necessary. However, gear cases of the new jet engines must stand higher temperatures. Magnesium Electron Ltd., Winchester, England, has solved this problem with a newly developed magnesium alloy containing 2.5% silver. At the 50 degrees higher temperatures now required, this performs even better than regular magnesium at the lower temperature.

Inclusion of a little silver also has a remarkable effect on copper. The Copper Development Association, 405 Lexington Ave., N.Y., NY 10017, administers specifications on 14 different copper alloys which contain 8 to 25 troy ounces of silver per ton. AMAX Copper, 2 Greenwich Plaza, Greenwich, CN 06720, and Olin Brass, East Alton, IL 62024, sell silver-bearing copper alloy for fins of automobile radiators. The silver in the copper raises the fins' softening temperature so they can be soldered without damage, maintaining their precise efficient shape.

Also, the radiators of the new model automobiles must withstand higher driving temperatures and pressures. To meet these conditions, manufacturers such as Federated Metals, 120 Broadway, N.Y., NY 10005, now include o.5% silver in the lead solder which is used in almost all General Motors, Ford and Chrysler radiators.

For assembling copper tubing household water supply systems, and making many types of household and industrial equipment where low temperature soldering must produce strong and reliable joints, companies such as J.W. Harris Co., Inc., 10930 Deerfield Rd., Cincinnati, OH 45242, add 5% silver to tin to make a solder with maximum performance and minimum labor of application.

The Silver Institute provides information to industry on developments of improved alloys containing silver.

GERMAN APPRENTICE SYSTEM

by Lolly Frankel

In their mid-teens, the people lucky enough to find apprenticeship positions in Germany begin to work for a Master gold- or silversmith. (A goldsmith makes jewellery out of gold and silver; a silversmith makes objects out of non-ferrous metal!) At the end of a period of approximately 3 years of working a full work week, minus one day which is spent at professional school (Berufschule), the apprentice is required to try an exam, "the Gesellenprufung" or Journeyman's exam. This involves the execution of a personally designed piece and a theoretical examination on matters such as practical techniques, metal alloys, historical design development, selling theory and other necessary knowledge.

After that point there seems to be various directions for the Gesellen — either they work for another gold- or silversmith and remain on that level, or they go to work for someone else with the intention of preparing for the Master examination which is more difficult than, but on the same lines as the Gesellenprufung. They might attend another school where their already perfected techniques are put to use in the study of design and the pursuit of creative development. After the three or four years of design school they can still prepare for the Master examination or set up an independent studio as a designer/craftsman. Only those who successfully complete their Master examination are allowed to train apprentices and to open a commercial jewellery store, selling work other than their own.

DEBRA LYNN GOLD—AUTOBIOGRAPHY

". . . I am nothing I was supposed to be, yet everything I want to be". *DEBRA LYNN GOLD*

I see the events of my life as a string of accidents, though at times I know I have given those events some direction. At the moment I am nothing I was supposed to be, yet everything I want to be.

Born to very middle class folks on the south side of Chicago, I grew up believing that all children had benefit of the cultural offerings of a big city. Memorable episodes of my childhood were our regular trips to the Art Institute, the Museum of Science and Industry and the Goodman Theater. Another early image is of pressed nose against the large glass showcase of a hobby shop, studying the stamped copper shapes as my mother (a confirmed dabbler) purchased her enameling supplies. She abandoned the art form eventually, but many a craft fair was my babysitter.

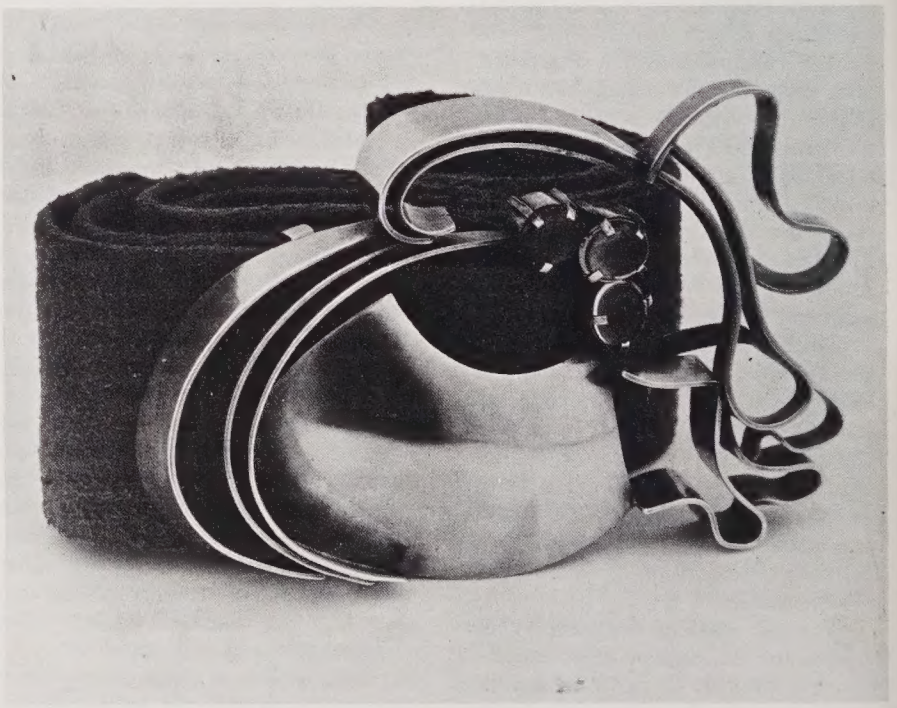
I also recall the sense of accomplishment at the number of times I managed to break my arm during my formative years; a distinction none of my siblings could rival, and a penchant which somehow convinced me I was destined to lead an active life. (Fortunately for me, it was always my more expendable left arm, and those accidents have in no way interfered with the might to smith.)

I suppose my first direct experience in metal (apart from one tooled copper foil project in the 4th grade) was at age twelve. Part of my schooling in independence and self-reliance included permission to ride the "el" train downtown with girlfriends. I discovered a small bead and novelty import outlet on the ninth floor of the Charles Stevens Building and began making regular pilgrimages to select the components of what was to become a portfolio of very tacky earrings. With an innocent concern for design, a pile of findings, and my father's pliers, I built my first jewelry. I do recall a particularly frustrating jump ring one afternoon, and a plea to my mother to remind me never to become a jeweler when I grew up. I'm not sorry she forgot to do so.

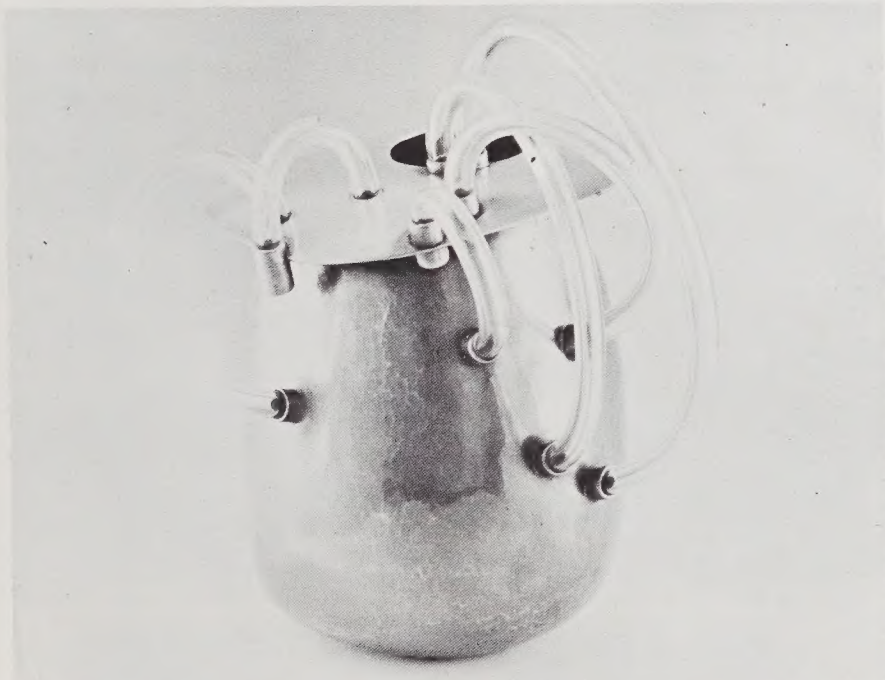
The academic orientation in my family was strong. High achievement in the realm of school was an assumption. While I was always encouraged to find a field I could enjoy, I integrated parental expectations more than I knew. With one older brother in chemistry and a reading specialist for a sister, I was left to default to become a social worker like my father. I left high school with strong convictions to major in psychology and go on to graduate school in social work.

Fortunately, Indiana University had sophisticated craft shop facilities, and I learned that working in clay could ease midterm pressures. My formal induction into the Art Department was not simple. It was intimidating for a freshman psych major to register for art courses, so I went south one summer to the Instituto Allende to study, figuring anything was possible in Mexico. My arrival there found ceramics classes full, but I'd already nosed in the metal shop and it held a strange intrigue. My teacher, the local tinsmith, was a dear man, but I attribute that summer with nothing more than demonstrating to me that one could pursue art with a unidirectional fervor. I fell hopelessly in love with that inanimate substance called metal.

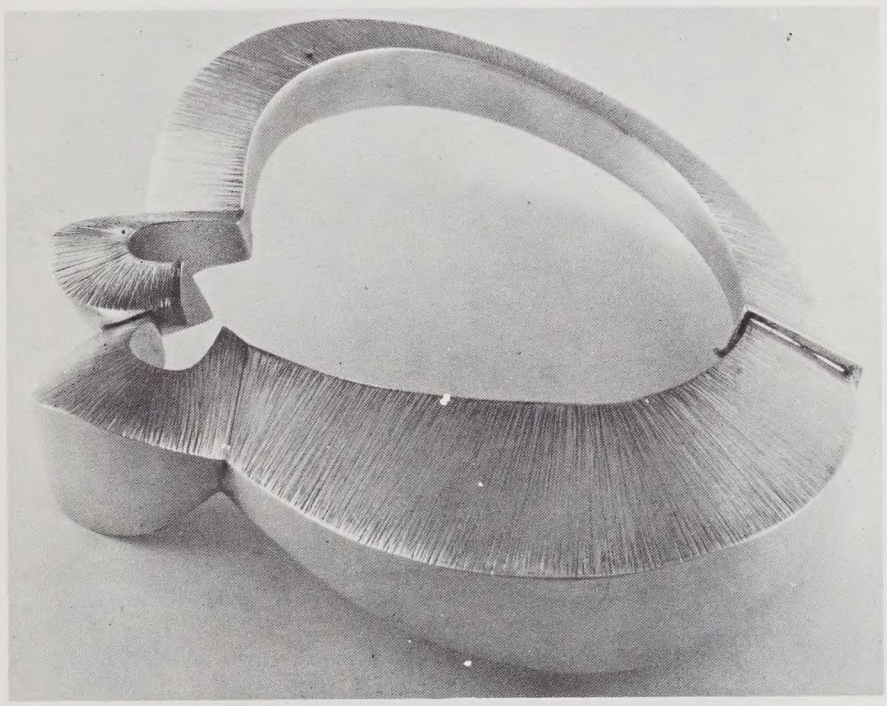
Debra Lynn Gold, "Gill Pot", raised sterling with copper and brass, 5x7x9
—photo by B. Mabry



Debra Lynn Gold, "Belt Buckle", formed and constructed sterling and brass with carnelian, opal and quartz, 4x5x1
—photo by P. Anderson



Debra Lynn Gold, "Continuous Container", raised copper with sterling and vinyl, 5x5x5
–photo by B. Mabry



Debra Lynn Gold, "Hollow Collar", formed and constructed brass, 2x7x7
–photo by B. Mabry

With dreams of soldering stations and planishing hammers, I returned to I.U. and naively located the office of Alma Eikerman, knowing nothing of the great woman. My A's dropped to B's in psychology, but I had my niche in the jewelry studio. On graduation (with honors in psych) I fled to Europe to think things over. After some months, much perspective, and a growing desire to shed my backpack, I came home and committed myself to the rigors and exhilarations of being a graduate student in jewelry and silversmithing at I.U.

My formal training in metals has been a continuous inspiration to me. I appreciate the accident of my being at Indiana and coincidentally turning to metals. I sometimes pity the undergraduate confronted with an unlimited choice of graduate schools. My narrow vision could only broaden as I began my studies. The vita submitted with my graduate school application stated that I had no desire to teach. I felt I was entering the program to complete a task of personal gratification, fully cognizant of the luxury of a graduate school education. Fortunately, my teaching assistantship enlightened me to new abilities and resolved my internal conflict between my art as a selfish pursuit and my longstanding need to deal with people in my profession. The sharing of knowledge, experience, and ideas that I found in teaching seemed a more constructive involvement than the debilitating dependency I had seen established with my clients during a previous summer internship as a social worker.

With the approach of graduation, a perservering and naive faith in my procuring a teaching position miraculously caused one to materialize in the majestic mountains of upper east Tennessee. I pride myself with a retention of nearly all my idealism throughout my three years of teaching at East Tennessee State University. Minor modifications of tactics and sacrifices of time required to survive in an institutional environment are more than outweighed by the freedom teaching has allowed my work, and the reciprocity of stimulation I find with my students.

Challenge is a critical motivating factor in my life. I find it in each new student that enters the metal shop. I find it in every design I conceive. Only the best ideas endure the conceptual state before time allows translation to drawn image. Each stage of the creative process establishes impetus for the next. I know what it is I set out to do, but intermediate solutions along the way are often the most exciting. Time offers a changing curiosity about particular materials, and ways to work them, but the dynamics of imagery cannot rely on that alone. My work is an ongoing confrontation with image; materials and techniques are merely tools to get there, and mastery of them insures the ability of expression.

PROJECT REPORT NO. 34/2
THE DIRECT CASTING OF GOLD AND SILVER ALLOY MOUNTS ON TO SYNTHETIC STONES

by **CHRIS WALTON**

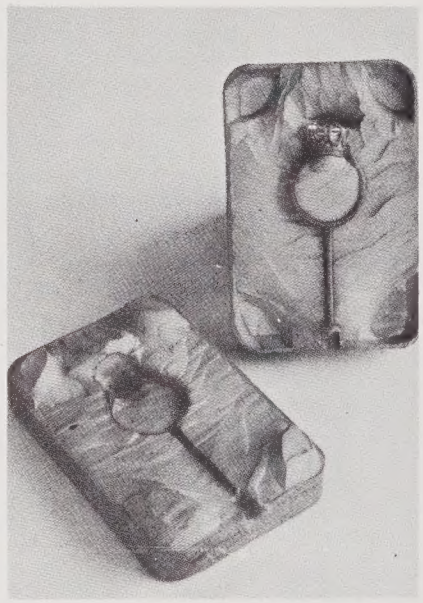
(reprinted with permission of Worshipful Company of Goldsmiths Technical Advisory Committee, courtesy of Peter Gainsbury)

OBJECT OF INVESTIGATION—To devise a method for the production of industrially finished gem-set jewellery with the metal settings cast directly on to synthetic stones.
CONCLUSIONS—[1] It is possible to produce a satisfactory product for the low/medium cost precious jewellery market. [2] For satisfactory commercial processing, high accuracy machine-cut stones are necessary. [3] Standard investment casting techniques and equipment can be employed. [4] Some modification to the design of standard gem mounts is necessary for successful processing.
INTRODUCTION—Discussions between the Director of Research and the staff of Swarovski, the Austrian synthetic stone supplier, led to a suggestion that it might be possible to cast-on settings in normal precious metal alloys using their range of machine-cut synthetic corrundum and spinel stones. The Technical Department of the Company accepted a brief to ascertain whether the process was commercially viable.
EXPERIMENTAL TECHNIQUE—
Preliminary Casting Trials—At first all castings caused difficulties in that the stones shattered. These failures were thought to be caused by thermal shock when the investment moulds were cooled down and later quenched when reasonably cold. A further series of experiments were conducted where the moulds were cooled very slowly, being left overnight in a hot burnout furnace after casting. The following morning when the flasks were still quite warm, the moulds were broken open and it was found that a high proportion of stones were still damaged. It therefore appeared that the shattering was due to thermal shock taking place when the molten metal came into contact with the stones.

At this time flask temperatures of approximately 550 C were being used and the metal temperature was at about 1120 C. This problem was overcome by raising the flask temperature to the region of 650 C. It was also found in later trials that a high mould temperature was necessary to enable metal to flow round the girdle of the stone and totally make the fine claws used on the setting. Raising flask temperatures to this level has some deleterious effects on the quality of the castings and in some of the initial experiments, shanks of rings were very porous.
Rubber Moulds—Standard vulcanized rubber moulds were used for experimental patterns and rubber cutting techniques have been found to be similar to those used in current commercial practice.

Master patterns with hand-set stones mounted in the collet were carefully packed into the mould frame using MCY 26 vulcanizing rubber supplied by Hoben Davis. Care was taken to fill the interior of the setting at the back of the stone to avoid air inclusions forming a spongy area in the rubber. It was essential that a long pre-heat time was given to the rubber to achieve fluidity before applying pressure in the press otherwise the delicate settings might have been squashed, and satisfactory penetration into all corners of the mould not achieved.

The block moulds were opened using a standard technique of cutting four internal locks in each corner using a scalpel. The moulds were split to leave the centre of the ring and interior of the setting on one half of the rubber and the exterior form on the other half.
Casting—It is advisable when attempting this form of casting, that process parameters are accurately controlled and that the temperature indicating and controlling equipment are all checked for accuracy. Careful measurement must be maintained on the water/investment mixing ratios and it was found advantageous to use investments containing high percentages of plaster binder to give strength and avoid cracking. It is also essential to think about the temperature gradients within the flask on cooling, such that the central sprue acts as a heat reservoir and the objects to be cast are positioned in such a way as, for example, with a ring, that the head and setting are allowed to cool first, followed by the shoulders and latterly the shank, so that correct feeding is maintained at all times. To this end, a central wax sprue was formed in the shape of a truncated

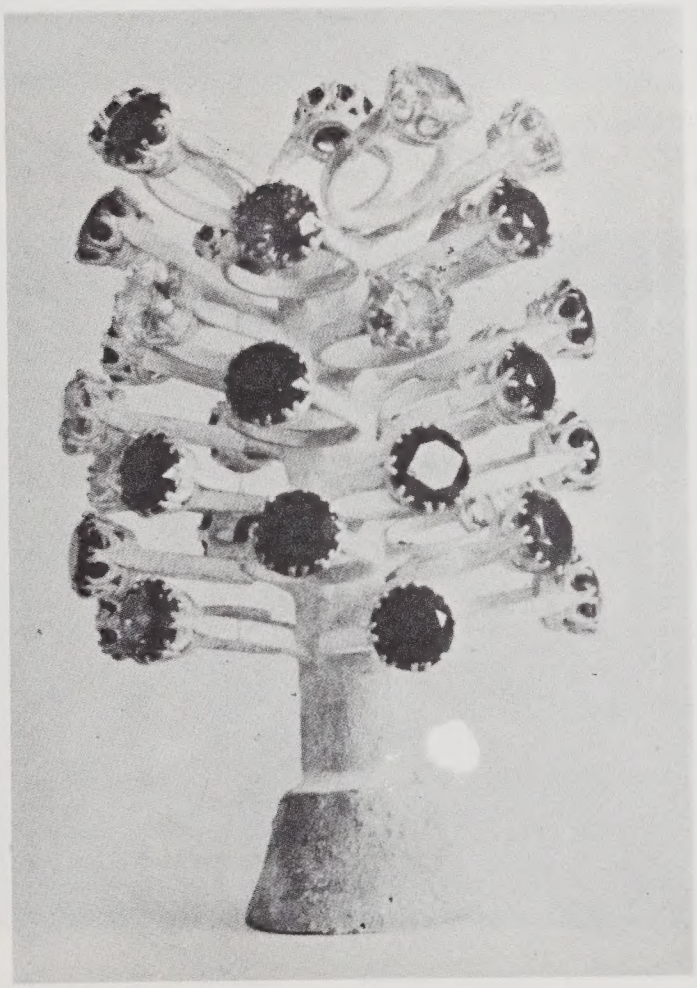


Rubber Die with Synthetic Stone in Position

Rubber Die with Wax Injected Over Synthetic Stone

Wax Patterns Sprued for Casting

Details of Rubber Die Showing Spiral Cutting of Rubber to Facilitate the Extraction of the Wax Pattern



Finished Metal Castings on Sprue

cone, the apex of the sprue being approximately 6 mm in diameter and the base about 15 mm in diameter. The use of this sprue form markedly helped cooling gradients within the flask, ensuring that temperatures increased radially towards the centre and also from bottom to top.

At first it seemed that providing the flasks were not immediately quenched after casting, allowing perhaps an hour to cool down, they could be satisfactorily quenched in hot water without shattering the stones. It was found, however, that if this course were followed, synthetic gem materials of the type used suffered embrittlement and subsequently concoidally fractured chips might break away from the stone if the rings and mounts were roughly handled. It was, therefore, found necessary to anneal the stones and this was again done by returning the moulds to the burn-out furnace after casting and allowing both to cool down slowly overnight.

All the samples cast during the development of this process were in standard silver or silicon containing 9 carat DF type gold.

Batch Testing—Once the general principles of the process had been established, it was decided that a commercial sized batch would be processed to see if the technique would stand up to commercial practices. It was found possible to achieve about 95 per cent success rate, processing batches of about eighty rings per flask, but the quality of control equipment that was available made it very difficult to reproduce consistently the quality of the initial experimental batches. It is thought, however, that the majority of commercial firms would have equipment of a satisfactory standard to enable them, with a little practice, to achieve satisfactory commercial results.

Finishing—The large batch of castings which were produced were passed on to Dr. Ing. Manfrid Dreher KG, Pforzheim, for practical trials, using industrial finishing techniques. Dreher was able to produce a high standard of machine polishing, using barrelling techniques with plastic chips. The method gave very adequate results without damaging the setting or the sharp polished edges on the stones. Castings were supplied in the "as cast" form stripped of investment, and the surface oxides removed by pickling and with only the sprue having been trimmed back.

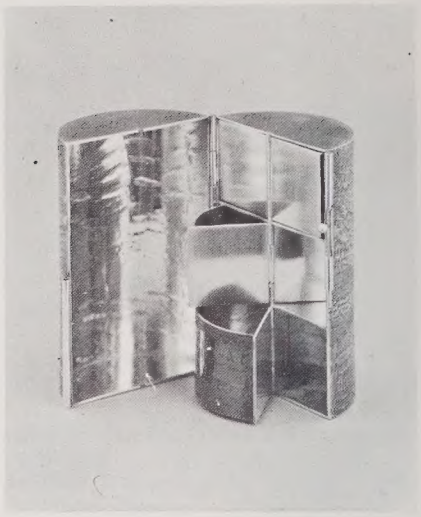
It was felt that an improved finish would have been obtained if the inside of the shank had been sanded prior to barrel finishing. This would have removed a slight step formed in the wax patterns during injection due to variations in the size of the calibrated stones supplied, causing slight displacement of the rubber mould and uneveness of location at the base of the shank. This fillet can be quite easily removed using sandpaper on a powered split shank mandrel. It is thought that some improvements in British industrial finishing techniques as commonly used in the jewellery industry would be necessary to produce a commercially viable product.

DISCUSSION—It has been found that using standard design jewellery settings is not very satisfactory since these require some modification to give strength and weight of material in the right place.

It is necessary to design-in a better standard of location and positioning of the claws adjacent to the girdle of the stones. The main problem occurs in removing the wax pattern from the rubber mould as the claws tend to pull away from the stone. This is quite simply corrected, for example by designing into the setting an under-bezel to support the claws adjacent to the girdle on the stone. It is also necessary to dissuade the setters from softening the claw of the master pattern as is current practice.

Fine cast metal wires appear to be rather fragile, and quite short term wear was sufficient to cause the upper part of the claw, above the girdle, to break away in silver mounts and so release the stone. If additional metal is left on the claw adjacent to the girdle during the setting process when the master is made, then no further difficulties should occur.

It is thought that little or no difficulties should occur in using nickel silver, brass or bronze alloys for this technique, but all the development work done has been with gold and silver alloys and has been limited to making solitaire and three-stone rings.



UNIVERSITY OF ARIZONA

Kathie Adams, U. of Arizona, "Container with Revolving Drawers", sterling

EXHIBITION OPPORTUNITIES

Aug. 9-10, Pacific States Craft Fair, San Francisco, CA; Ft. Mason Facilities, Pier 2; open to trade. For more information, write: American Craft Enterprises, P.O. Box 10, New Paltz, NY 12561.

Deadline date: July 15; Sept. 22-24, Indian Summer Arts & Crafts Festival '78: 19th annual festival at the Washington Co. Fairgrounds, Marietta, OH. For information: ISF '78, Arthur Howard Winer, Director, Marietta, OH 45750.

Dec. 1,2,3; The Christmas Craft Expo I; Hartford Civic Center, Hartford, CN. Booth fees start at $100.

Dec. 8,9,10; The Christmas Craft Expo II; Hartford Civic Center, Hartford, CN. Booth fees start at $100.

July 7,8,9; New England Craft Expo; Topsfield Fairgrounds, Topsfield, MA, on Rt. 1, northwest of Boston. Outside booth: $60; building space: $75.

Aug. 25,26,27; The Berlin Craft Expo; Berlin Fairgrounds, Rt. 72, Berlin, CN. Outside space: $50; building space: $70.

July 23-Aug. 24, The 50th Anniversary Exhibition of the Cooperstown Art Assn., Cooperstown, NY. Categories: crafts, painting, sculpture; limit 1 entry per applicant; fee $7.50 membership. Prospectus from Olga Welch, Exhibition Director, Cooperstown Art Assn., 22 Main St., Cooperstown, NY 13326.

Deadline date: slides due Aug. 18; Nov. 12 thru Dec. 31. "Fire and Light", Layton NJ. An exhibition of functional craftwork that involves the use of man's two discoveries essential to daily living. Entry fee $4, maximum of 3 entries with 2 slides per entry; jury. Write: Molly Mechem, The Gallery, Peters Valley Craftsmen, Layton, NJ 07851.

July 29-30, 9th Annual Peters Valley Craft Fair, Layton, NJ; juried. Write: Craft Fair, Peters Valley Craftsmen, Layton, NJ 07851.

Aug. 10-13, 2nd Annual Rocky Mtn. Craft Fair, Denver, CO. Write: National Crafts Ltd., Noel Clark, Dir., Gapland, MD 21736.

Oct. 18-22, 3rd Annual National Craft Fair, Gaithersburg, MD. Write Noel Clark, National Crafts Ltd., Gapland, MD 21736.

Nov. 5-Dec. 3, 31st Annual Mid-States Exhibition, Evansville, IN. Write: Museum of Arts & Science, 411 SE Riverside, Evansville, IN 47713.

Slides and entires due Sept. 9. Oct. 28-Nov. 26; The 7th Marietta College Crafts National: A Competitive Exhibition of Crafts & Sculpture, Marietta, OH. For application, write: MCCN '78, Grover M. Hermann, Fine Arts Center, Marietta, OH 45750.

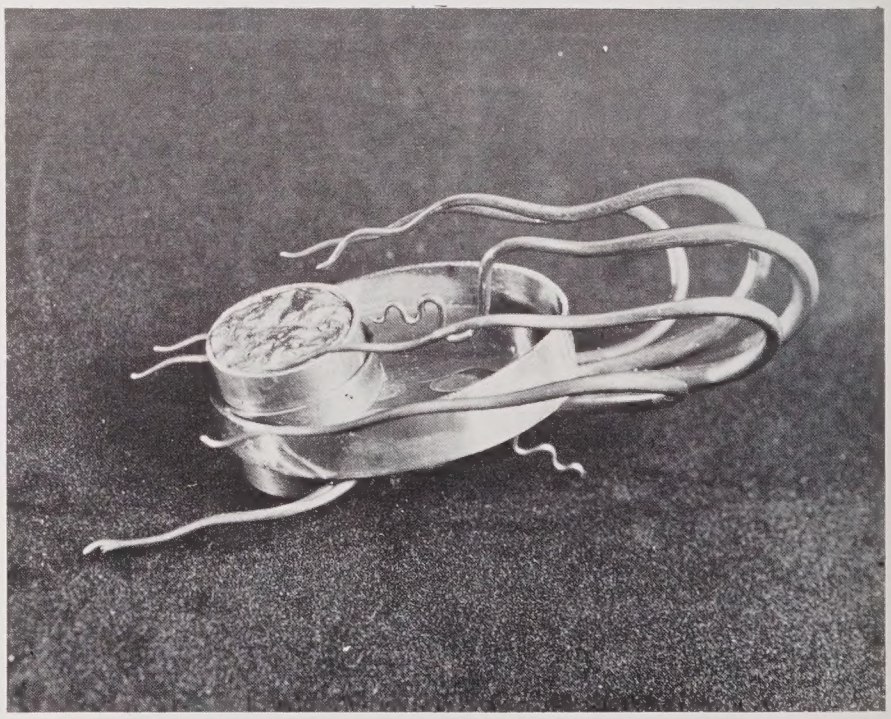
Deadline date: Aug. 14. Oct. 6-29, California Craftsmen '78, Monterey Peninsula Museum of Art; all entries will be insured. Please write: Monterey Peninsula Museum of Art, 559 Pacific St., Monterey, CA 93940.

July 21-23. 6th Annual Outdoor Arts Festival. Applications for rental of outdoor booth space now being taken. For information write: The School of Fine Arts, 3866 Mentor Ave., Willoughby, OH 44094, attn: David Kelly.

COMPETITIONS

Deadline: July 25, "First Annual Jewelry Design Competition", sponsored by Jewelry Manufacturers Association, stressing design, innovation and production values; juried; cash awards. Write JMAS, P.O. Box 40013, Albuquerque, NM 87106. Include self addressed, stamped envelope.

Barbara Wing, U. of Arizona, "Amelia Earhart Pin", sterling, copper, brass, acrylic



Dana Coles, U. of Arizona, "Double Take", 14K gold, silver, copper, brass, bronze

A NEIGHBOR YOU OUGHT TO KNOW. . .

(courtesy of Artist-Craftsmen Information Bulletin, No. 13)

Located in the same building as the Artist-Craftsmen Information Bulletin is an organization that crafts organizations and individuals should know about — *National Slide Registry of American Artists and Craftsmen.*

The National Slide Registry of American Artists and Craftsmen has been formed to bridge the gap between governmental agencies and the artist and craftsman wishing to have his work on file in the center of governmental activity. All styles of art are represented in the National Slide Registry and all media — painters, sculptors, photographers, printmakers, craftsmen. Artists wishing to be represented in the National Slide Registry should send five slides of current work along with name, address, phone number and a registration fee of $5.00 (check or money order) to National Slide Registry of American Artists and Craftsmen, 806 - 15th St., N.W., Washington, DC 20005. Future plans for the Slide Registry include possible affiliations with other slide registries throughout the country and the hope that grants can be received so artists and craftsmen can be included in the Registry without charge. Architects, interior designers and representatives of government agencies are not charged for the service of reviewing work in the slide registry.

VISUAL ARTS GUIDELINES

(courtesy of Artist-Craftsman Information Bulletin, No. 13)

If you're planning for projects in Fiscal Year 1979, it's important to send for the new Visual Arts Guidelines. Write to Visual Arts Program, National Endowment for the Arts, 2401 E St., N.W., Washington, DC 20506.

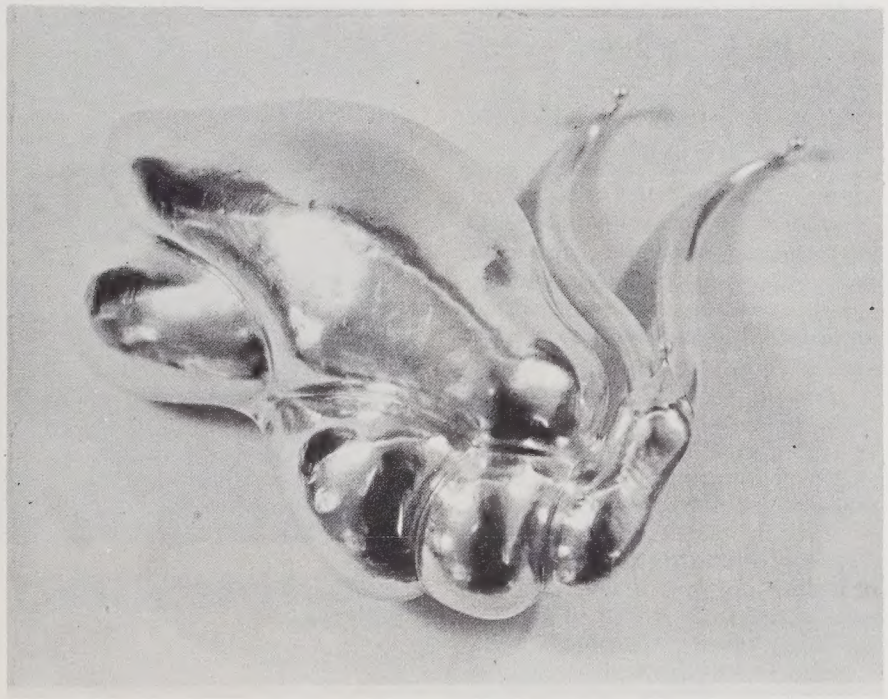
Grant application deadlines for the Crafts Program have been changed from the previous year:

- † Craftsmen's Fellowships—application deadline: Dec. 20, 1978.
- † Apprentice Fellowships in Crafts—application deadline: Sept. 29, 1978.
- † Crafts Exhibition Aid—application deadline: Oct. 29, 1978.
- † Crafts Workshops—application deadline: Oct. 29, 1978.
- † Artists, Critics, Photographers and Craftsmen in Residence—applications are accepted and reviewed throughout the year.

If you're a professional craftsperson of exceptional talent and demonstrated ability and are planning to apply for a Craftsmen's Fellowship, you should know that the grant amounts have been increased to $10,000. The panel may also recommend a limited number of $3,000 fellowships for emerging craftsmen.

The Visual Arts Guidelines include full information about other categories of funding, including important changes in the Art in Public Places category.

Bonnie Gwaltney, U. of Arizona, "Rapt Bowl", brass, steel wire



Richard Branower, U. of Arizona, "For they sow not, neither do they reap. . .", sterling, pearls

Leslie Sims, sterling

Vada C. Beetler
–photo by Ralph Dicks

PERSONAL EXPERIENCES OF VADA C. BEETLER

". . .some people just need a little encouragement to allow the design ideas to pour out."

My teaching jewelry has been enhanced by ideas derived from my students, personal interests, professional metallurgists, objects studied and gleaning from literature and fellow craftsmen. At the insistence of Dora Rosenfeld, director of the Columbus, Ohio Adult Arts & Crafts Center, I began to teach jewelry classes there in July 1963. This month we are relocating to the 115-year-old castle-like Ohio State Arsenal, now known as The Cultural Arts Center. Each instructor, myself included, designed their particular area which includes ceramics, enameling, fabric decoration, graphics, sculpture, weaving with a complete dye studio and woodworking. The city leased the building from the state for a dollar ($1.00) a year. The Department of Recreation and Parks and a federal grant provided more than a million dollars for the conversion (1.7 million, to be exact).

Except for a one-week summer workshop in 1962 with Olaf Skoogfors, and a one-week workshop with Hans Christensen the following year, I am self-taught in metalworking, technology and history. How lucky to have one's first teachers of such a high caliber in craftsmanship, integrity and ideals. Not only did I receive sound basic metalworking principles and their personal views, I also received answers to the hundreds of questions that I had. Hans and Olaf never stinted on giving. At the 1970 and subsequent SNAG meetings which I attended, I always knew that there would be two friendly faces if Hans and Olaf were there. If they were, I was never disappointed.

During my senior year at the Ohio State University, I saw metal being worked in an art education class, closed to me as a painting, sculpture and art history major. After graduating with a B.F.A., I began on an electric stove to tin-lead solder copper and brass, working metal over any suitable and sometimes unsuitable, make-shift stake with a ball-pein hammer in the evenings after an art-related daytime job. Metal and methods of working with it became my obsession. With little cash, flea markets and yard sales yielded tools and supplies including a large enameling kiln with pounds of enamels. Between 1951 and 1963, metalworking, enameling and accumulating knowledge were sandwiched between many responsibilities since by 1963 there were three young sons to raise by myself.

How to teach and what specifically to teach in my new job was difficult. There were no local working craftsmen and the infrequent professional conferences I was able to attend never produced the specific information I sought. I felt my university training to be lacking in technical background and I was determined to teach practical methods. I believe in teaching disciplined knowledge of metallurgical processes, craftsmanship to use them, and the ability of using design to implement them. I believe in the philosophy that if something is worth doing, it is worth doing well. I also emphasize that as time goes on these achievements can be improved.

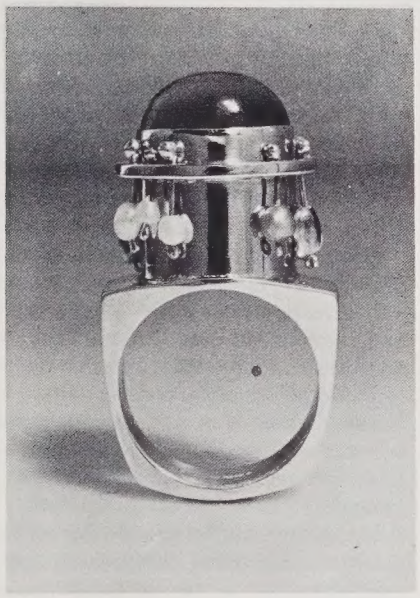
In the beginning as well as today, my instruction was a learning experience for me as well as the students. I learned their needs, and answered their questions (sometimes with further questions to stimulate the discovery process). If none of us knew, we pursued the problem and found the answers together. You'd be surprised what one can find by searching the yellow pages for information, materials and where to find them. I gave myself projects to develop a specific skill or technique and worked on it at home.

In Columbus, we are very fortunate to have Battelle Memorial Institute, originally founded as a metallurgical research foundation, the university library and sources for most needed materials. When I could not solve a metal-related problem, a call to the proper person at Battelle yielded more information that I ever expected. For instance, one year a question about working with brasses and bronzes led to a viewing of Pre-Colombian objects. Then reviewing what information came from an analysis being conducted of them for the Smithsonian Institution with the metallurgist. Further resource material came from a recommended book, "Sweat of the Sun and Tears of the Moon", by Andre Emmerich, University of Washington Press, 1965. With contemporary methods, my classes began doing mise-en-couleur, hollow core castings, one piece pressure castings and learning from some of the other Pre-Colombian metalworkers' accomplishments. At the 1968 WCC conference in Peru, I was able to view the collections with a more intelligent eye.

The bibliography in that book gave more resources and the university library provided them. In a 1929 museum bulletin, I read of Tutankhamun purple gold sequins on a pair of slippers. That proved not to be a true purple gold alloy (Alfred Lucas, Ancient Egyptian Materials and Industries, 4th Rev. Ed., 1962, E. Arnold, London), but the search led to a discovery of a thesis about a beautiful gold-aluminum alloy by Arthur S. Coffinberry (Transcript AIME 128, 249-260, 1938) and to the German research of an assigned patent to Handy

Vada Beetler, cast bronze lichen, laminated metals on sterling silver

Vada Beetler, amber and sterling silver ring



Vada Beetler, green moonstone, gold mount, sterling silver shank, biwa pearls

Vada Beetler, cast fossil tree bark, sterling silver amber, fabricated brooch

and Harmon in 1942, (Patent No. 2, 278,812). I even found a metallurgist retired from Battelle who had worked on the alloy for Elgin Watch Co. As it is not easily worked, I can now understand why Elgin dropped it as being non-profitable. I have succeeded in making only one solid fine deep purple button with an arc furnace, but there are many purple gold formulas waiting to be explored. A search for other colored metal alloys has led to a vast amount of information. The information in Wilson's "Silverwork and Jewelry", (Pitman, London, 1920) only touches the possibilities in the copper based alloys which can be all shades of orange, pink, yellow, green, grey to white and violet. One student showed his devised 10K gold alloy could match the color of an 18K yellow gold. As a chemistry teacher, he also taught us how to refine our gold and silver scraps by simple methods many years ago. Another student, a retired engineer, devised and gave us a simple table for calculating elongation of sheet and wire in a mill or draw plate.

In addition to learning from other students, other craftsmen have been helpful. Ron Pearson, visting Columbus for the Ohio Designer Craftsmen Show a few years ago, was kind enough to give his views on forging and also demonstrated the technique after a very long hard weekend of judging. Mary Lee Hu, Phil Fike and Bill Neumann also paid a visit to the Firehouse for a workshop. There are ever increasing numbers of workshops one can attend. A study course I have taken at Battelle, "Elements of Metallurgy" (also available by mail from the American Society of Metals, Metal Park, Ohio) has proved invaluable to me in explaining fully techniques for silver brazing (hard soldering), alloying, granulation, lamination by diffusion, annealing, precipitation hardening, etc.

With a grant from the American Scandanavian Foundation, I spent the summer of 1974 in Copenhagen Denmark. The National Museum gave me key privileges. At any time I could open the cases, hand examine and photograph any object. I chose only to do so when the museum was closed to the public concentrating on the Stone Age through the Viking Period. Otherwise, I spent time in the museum's libraries viewing collections, visiting other museums or putting in bench time at Ellen Broker's studio. The same privilege was granted in Stockholm at the National Historike Museum during a brief stay. I returned home with over 600 museum slides, a great admiration for the ancient Scandanavian smiths, new friends and more questions.

For the most part, my students are beginners and have little or no experience creating three-dimensional forms. The first project I assign is a paper cutting and folding exercise using 3" squares or circles to give the student a feeling for the three-dimensionality which can ultimately be translated into brass or copper. I stress simple forms so that sawing isn't so lengthy as to become boring. Positive and negative shapes are very evident and discussion follows as to their relationships, scale and other design factors. Different colors of paper can be translated into various metals. I also stress non-subjective forms so as to avoid preconceptions which are hard for some to visualize in their variations. At the same time we discuss the goals not only of the design exercise, but what techniques and tools must be used. Actual paper models or very thin metal seem to be much more effective in promoting designing skills for these students than sketching — many students just cannot visualize three-dimensional shapes. The developed metal form becomes the 'sketch' from which to progress to possible forms of jewelry with due regard to function. I introduce "hard soldering" through a simple ring band project in copper or brass, including the calculation to produce the desired size. To the diameter of the desired size, add one thickness of the metal being used (decimal measurements) and multiply by 79.8. The solution is the length of metal to be used in millameters which is very easy to measure. (79.8 is nothing more than the metric equivalent for Pi π) Remember long ago when in math class you learned C=D π ? If you try this and don't get a perfect match for size on the ring mandrel, perhaps you filed too much away in attempting to file for fit in the round prior to soldering or stretched the metal unduly while forming the band around the mandrel. The only variable has always proved to be human variation and with a little thought can be pinpointed and corrected on the next attempt.

Design ideas come from an individual's experiences and interests. In showing slides to a new class, I always include the necklace designed and executed by an automobile buff. Being the mother of three mechanical minded sons who took everything apart from bicycles to automobiles, I recognized head gasket forms as the main theme. Some people just need a little encouragement to allow the design ideas to pour out. I try to stimulate the eye and mind with my special interests which include a collection of minerals, fossils, shells, bones and plant forms. A hand lens opens up a wealth of textures, forms and functions perhaps seen before, but not really observed as aesthetically satisfying resource material. I enjoy the interplay of ideas, experiences and the challenge of solving problems which happen in a teaching situation such as mine. Ideas, metals, techniques, forms and materials to be explored; how fascinating. For me it is the best of all worlds.

CONFESSIONS AND OBSERVATIONS OF A CONVERT

by Hannelore Gabriel

In response to Lolly Frankel's question about differences in design of German and American goldsmiths. I am one (a genuine German goldsmith), only I didn't go to one of the goldsmith's schools Lolly talks about. At the age of 16, I served an apprenticeship to a master goldsmith while going to a goldsmith tradeschool once a week, graduating as a journeyman after 3½ years.

When, after many wanderings, I came to the United States eight years ago and saw the first pieces of American metalwork which sadly were spoon jewelry level, I was appalled. Fellow SNAG members — I didn't know about you then! Design then looked cluttered and contrived to me and alien. (I am the one though, folks, who carries a little blue card which calls me just that: alien . . .beep-beep.)

In the meantime, after being up-to-date on what is produced in this country by metalsmiths, each time I see an exhibition or open the SNAG Journal, it is an adventure to look at the abundance of different approaches techniques, and concepts. And, I observe a reassuring quantity of excellence, sophistication and commitment.

As difficult as it is, from one person's biased observations and experiences, I shall make an attempt to define what creates the differences between German and American design and why.

German goldsmiths are committed to one thing — goldsmithing. They either go to a special goldsmithing school where they are not exposed to other arts and crafts and where they concentrate on metal design; or they apprentice to a master goldsmith, who usually owns a jewelry store. In this situation, repairs and custom orders are more important than design. In fact, designing is often discouraged in favor of copying sure-fire saleable items. But it is a matter of honour not to disgrace oneself in the eyes of generations of technically superb craftsmen, and right angles and complicated mechanisms count that you show off to your co-workers demanding: Did you hear that click?

The criteria of excellence I have experienced for German jewelry is technical know-how, wearability and longevity. Since German goldsmiths are much more dependent on the buyer, they design pieces that are easy to wear and function as an adornment. One will look in vain in a German piece for anything loose, pointed catching, or heavy. And beware if the customer comes back after 50 years and something has broken off.

German craftsmen often display a reluctance to explore different techniques, especially anything that has something to do with casting. We were brainwashed into shuddering at the mere mention of the word. So it is complicated construction that counts. This approach propagates two-dimensional design. Pins and pendants are often strangely flat looking and the designs easily fall into geometric shapes. Ornamentation is sparse. As a whole, German pieces are neat and crisp looking, technical masterpieces, and lacking something. What? But always, they function for what they are designed.

American metalsmiths often start out in another profession and stumble into metal work by accident. Never do they just study one subject. They are knowledgeable in other arts as much as they are in metal. Because of the exposure to other possibilities for an American who chooses his profession as a metalsmith after experimentation at a later age, it becomes more of a calling. A German who started smithing at the age of 14 or 16 perhaps would like to try something else, but is trapped into one profession by the German system. Of course, it is possible to change, but only after more studying and more diplomas. Germans stick pretty much for life to what they have started in.

American metalsmiths can draw from a wealth of other experiences and it strongly reflects in their design. Never afraid to experiment, American craftsmen add, change, improve, materials and techniques and have a very individualistic approach. Since in this country there is not much of a tradition in crafts, in comparison to Europe, they have to find their own beginnings versus the German who adds to an established concept where another has left off.

American metalsmiths are artists making a statement about themselves in their designs. Germans continue a statement about the art of goldsmithing, passed down from generation to generation. Jewelry is the German goldsmith's main concern, whereas Americans make any object functional or non-functional in metal. Jewelry is often no challenge any more.

What a delight to see a soapbubble blower, egg slicer, and a bun with lettuce and tomato in silver.

The many possibilities and alternatives give American metal design an easiness and freedom. Too much freedom?

The free enterprise system which spews out hordes of self-proclaimed craftsmen into the street is the culprit for spoon jewelry, wire jewelry or anything slapped together that catches a buck. On this level, there is a lot of idea borrowing from American Indian jewelry.

In Germany the motto is, "Pro or perish". It is not possible to just go out and sell. In order to have a shop or teach a stack of diplomas and licenses are required. And because of the awareness of the German public of differences in quality, it would never be possible for a German craftsman to produce anything but quality and be able to sell it.

I see this slowly changing in this country now with the art and craft boom, the public more aware of the existence of arts and crafts, and tougher competition.

To me now, German jewelry design is still a treat for the eye and there are many German goldsmiths whose competence both in technique and design I wish I had. Design in Germany to me tends to look similar, in need of new approaches and lacking something.

As I write this, I see a correlation between the American nature and metal design and the German nature and their design in an incident that happened to me a while back when returning from another continent where I found it not as easy to make contact with people as it is in the United States. I only realized when changing onto a plane loaded with Americans — jubilation — they were my kind of people — easy going and gregarious!

An easiness and openess reflects in American metal design and is the something that makes it so exciting, so charming, so communicative.

PRESIDENT'S REPORT

by Mary Lee Hu

I often hear the question: What are the advantages to joining SNAG as a Pro Member over an Associate Member? What do I get for all my dues?

The first answer which comes to mind is that one is then more likely to be asked to volunteer his time and talents to work for the Society. We do have some paid secretarial and clerical help to assist members in doing some of the more demanding tasks, but the organization is still largely run by the members on a volunteer basis. Basically, this is the way we want it to remain, as long as we are able, so that it remains an organization of, and for, metalsmiths.

But why would a practicing goldsmith, who is already quite busy, wish to volunteer to do organizational work? Most do not. Believe me, there are no lines waiting to assist on committees, organize the conferences, etc. It seems that a relative few are involved, over and over, and that finding new volunteers becomes quite a problem. But why do some wish to do it? We are metalsmiths by profession. We have decided that this is to be our life's work and we have put in many years of training to learn the trade. We wish that the field have a general appreciation and respect and that we have an avenue to communicate with our colleagues — good for business and good for the soul. SNAG was formed to be such an avenue. It is through an organization that one can have a newsletter or journal and can organize conferences so that information can be exchanged, and it is through an organization that one speaks for the craftsman — to other media groups, museums, galleries, government, industry — not seeking to promote only that organization's membership, but promoting the field of contemporary metalsmithing as a whole. Our field is relatively new in North America — few indeed were the artist-goldsmiths working before World War II — but it has been rapidly expanding since 1945. I am ashamed to admit that I know so little of our predecessors. How many of you do? Here is something I would most welcome in an article — or a book — instead of another easy-jewelry making paperback.

But why join SNAG as a Pro Member, why not continue as an Associate, receive the JOURNAL, come to the conferences — take advantage of the Society . . . Some feel there should be one classification of membership, open to all without jury; this idea merits consideration. The organizational structure could be changed, however, the way in which it is set up at present, is to represent what metalsmiths, not art critics or Madison Ave., feel to be the finest in the field. The Associate Membership is looked upon as being primarily for interested individuals—historians, collectors, hobbiests, those new to or wishing to support the field. The Student classification was recently added to better enable the student to avail himself of the JOURNAL, to introduce him to the field he was training to enter. Pro Membership (pro as in affirmative, not short for professional) is for those metalsmiths who are totally committed to the craft. It is not a hobby for us but a profession, and in most cases an obsession as well.

I believe craftsmen are special people. In a society of the mass produced and instant gratification, we are still trying to work independently— to design, make, and in most cases, market our products. Our processes are time consuming and we have something within us which drives us to do our best. Our attention to fine craftsmanship is bucking today's trend of planned obsolescence. It is, as I have said, an obsession; there is an intensity and drive to work with the materials and make objects, a pride at seeing the completed piece, and a wish to have others appreciate it, by complimenting or purchasing — a most genuine compliment. Most craftsmen I know are also perennial students, always interested in learning and therefore most understanding and generous toward others with their knowledge.

Many of the metalsmiths around the country are my friends as well as my colleagues. I have met them through their work, through correspondence, through conferences and workshops — in many cases through SNAG.

Thus a few personal ramblings on why I feel support to the Society in the form of dues above the actual cost of the JOURNAL and of volunteering to become actively involved with the programs are worth a person's while.

May I remind all Pro Members that the ballot for the 1978 elections, received in late April, should be returned to Richard Mawdsley by July 10,1978.

Best wishes to you all for a fine summer!

Mary Lee Hu
Art Dept, Michigan State University, E. Lansing, MI 48824.

1978 TECHNICAL PAPERS

We failed, in last month's JOURNAL, to announce the list of this year's technical papers. Our most sincere apologies to the four authors.

This year, because of the many other speakers in St. Louis, there will be time for only two papers to be presented at the conferences. As listed, these are:

1. Gary Griffin—"Machine Tool Process: An Aesthetic Application"
2. Marcia Lewis—"Tungsten Inert Gas Welding/Aluminum Alloys-Their Potential Importance to the Craftsperson"

Two additional papers were to be printed for distribution at the conference:

1. George van Duinwyk—"Drop Stamping: One-of-a-Kind, Limited Production and the Artist/Craftsman"
2. Linda Weiss—"Health Hazards Encountered in the Field of Metalsmithing and Alternatives for a Safer Working Environment"

These authors have been invited to be present in St. Louis for informal discussions on their papers. We regret to learn that George doubts if his schedule will allow him to be present; however, we all look forward to meeting with Linda, Marcia and Gary.

These papers will, as last year, appear in the JOURNAL, starting in August.

SOME SUGGESTIONS ON PHOTOGRAPHING METALWORK

by Bernard Bernstein
copyright 1978

Photo No. 1

Photo No. 2

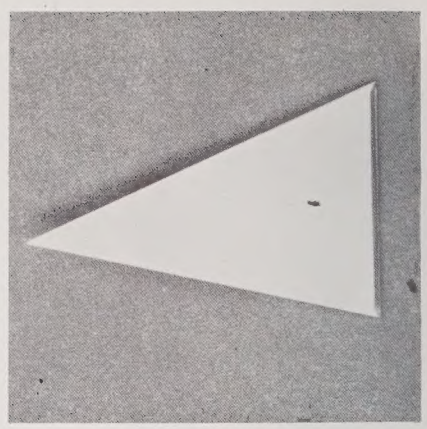


Photo No. 3

As the craft world is now structured, the photographic recording of craft work to produce color slides and/or black and white or color prints is no longer a matter of choice on the part of the craft person. These pictures are considered to be almost as vital a result of our professional activity as the objects they portray, and the cameras, lenses and lights necessary to make the pictures are regarded as standard equipment to be acquired along with the flexible shafts, looms, potters wheels and all the other tools of the trade.

But photography is a specialized craft in itself and photographing jewelry and holloware presents particularly difficult problems not faced by practitioners in many other crafts. Most goldsmiths discover this fact when they examine their first set of prints or slides and find that the pictures do not look like the work. All kinds of extraneous, unexpected material is seen, such as bright reflections of the lights knows as "hot spots", or mysterious black lines or shapes that didn't seem to be part of the object when the shutter was tripped. Often enough the contour of the piece is lost because it merges with the background. And who hasn't been pleasantly surprized now and then to see a fun-house mirror image of one's own face and camera staring back from the middle of a silver bowl or bracelet?

Soon the answer becomes clear; these flaws in the picture are there because when we look through the camera we see what we want and expect to see, while the camera sees what is really there. Sometimes we do see the unwanted reflections but can't seem to get rid of them no matter how the lights and camera angle are manipulated.

The suggestions that follow may provide solutions to some of the problems involved in photographing jewelry. Indirectly, the principles discussed may be applied to photography of larger objects such as holloware, but most of the techniques described and the drawings and photographs in this article relate specifically to jewelry.

One other delimitation must be included in order to restrict the scope of this article for the sake of brevity and to avoid duplication of information that is readily available elsewhere. I am assuming the reader has a single-lens reflex with close-up capability or a view camera that he or she already knows how to use and understands the basic of optics, lighting, filters and exposure calculation.

Let's begin with the optical phenomenon known as reflection, which is at the root of most problems in photographing jewelery and other shiny objects. Objects are made visible to us and to the camera either by having light pass through them, as in stained glass windows, or by having light bounce off them. The first is known as transmission; the second, reflection. Most photography is accomplished by reflection because most of the objects photographed are opaque. Jewelry and holloware fall into this group.

There are two classes of reflection, which are based on the nature of the surface doing the reflecting. If the surface has a matte or coarse texture the light rays will bounce off it scattering in all directions rather than in more-or-less parallel rays. This type of reflection is known as *diffuse reflection.* A satin finish is an example of the type of surface that will produce a diffuse reflection. This type of surface presents no unusual photographic problems.

If the surface is highly polished, the light rays will bounce off it with little or no scattering, and with more-or-less the same coherence and orderliness as the light that fell on it. This second class of reflection is known as *specular reflection.* A mirror exhibits specular reflection, as does most jewelry, holloware, car bumpers, wet surfaces, glassware, etc. Objects like this are difficult to photograph well.

A basic principle that applies to the behavior of light in the specular type of reflection states that the angle of reflection of light from the surface is equal to the angle of incidence of light falling on the surface. When you stand directly in front of a mirror, you are at a 90 degree angle to the mirror. Your reflection is also at that angle and you will see yourself in the middle of the mirror. If you step to one side of the mirror and your line of sight is, say, 45 degrees to an imaginary point on the surface of the mirror, you will see in the mirror any object opposite you which is also at 45 degrees to the mirror.

On the basis of what has just been described about specular reflection it becomes easy to understand why shiny objects are difficult to photograph. The reason is when we try to photograph an object of this type, we are not really photographing the object itself (as we do when we photograph a diffuse-reflective object), we are photographing everything reflected by the object plus a little bit of the object itself. The things reflected by the object are usually things we don't want, like light bulbs, faces and dark ceilings. You can try this idea out by trying to photograph a mirror and getting only the mirror.

This leads us to the formulation of two basic approaches in photographing jewelry and similar objects, from which all the succeeding suggestions will derive. First: You must decide what the object you are photographing will be allowed to reflect. Second: Since you are photographing what the object is reflecting and not the object itself, you must direct your lights at the surfaces being reflected, and not the object itself. You can throw a 1000 watt spotlight at your jewelry and, depending on the angle between the light, the jewelry and the camera, you will either get a hot spot, which is a reflection of the light, or you will get a dark shape, which is the reflection of the dark part of the room or of the camera itself.

To put these two principles into practice, you will have to build an enclosure around and/or in front of the object. The color of the inside surface of the enclosure must be white. Any other color will make your silver or gold appear to be that color. The texture of the inside surface of the enclosure must be matte. It should also be without wrinkles or decorations and it should be translucent.

The best material for this enclosure is plain white drawing paper of appropriate stiffness. The background material is subject to much more variation and depends on the nature of the object, its shape, materials, and the effect you want to achieve. It can be cloth, wood, skin, etc. It can be dark, light, or intermediate. Experimentation is important when dealing with backgrounds.

For purposes of illustration, I have selected two types of shiny metal surfaces. They represent, in an approximate way, all the surface contours you are likely to encounter. The triangular piece is dead flat. The other, a repoussed piece, has convexes, concaves, sharp ridges and warped surfaces. The flat surface reflects light in a simple, uniform way, like a mirror. It will reflect an area about as large as itself located at the same angle to it as it is to the camera. The formed piece will reflect practically everything in front of it in a random, distorted, unpredictable way because the surfaces of the piece are not flat and are at random angles to each other.

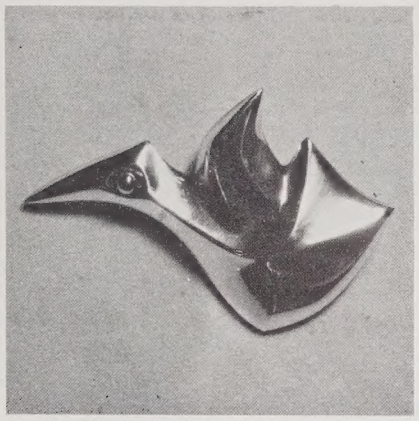


Photo No. 4

Photo No. 5

Photo No. 6

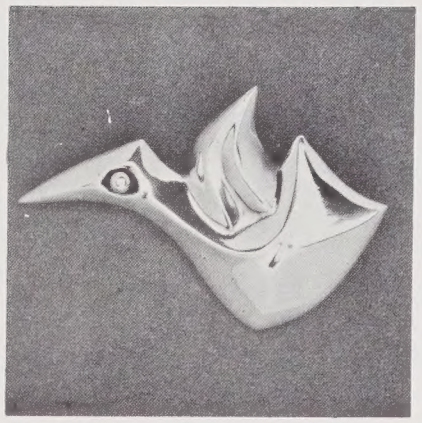
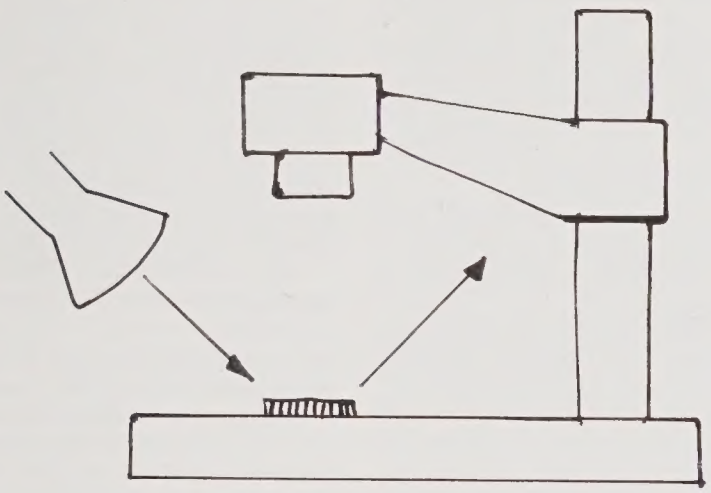
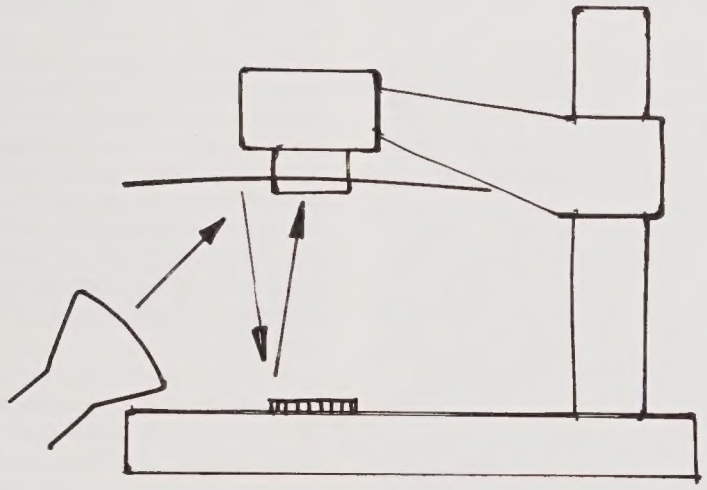


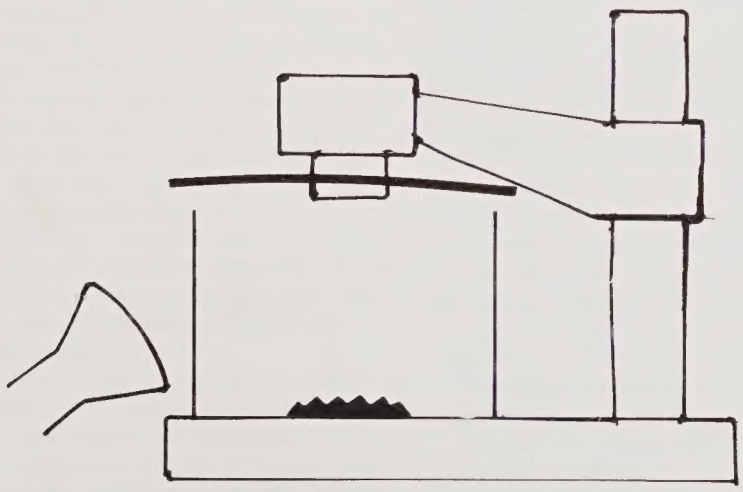
Photo No. 7



Drawing 1



Drawing 2



Drawing 3

Let us try photographing the flat object. In the pictures shown, I used backgrounds of varying values in order to maintain contrast. Also, I used one photoflood to keep the set-up simple, but similar results would occur with one flood on each side. The drawings show the flood in front of the camera. This was done to keep the drawings looking uncluttered, but actually the flood was at the side of the camera when the pictures were shot. The results would be essentially the same either way.

If you use the set-up shown in drawing no. 1, you will get the result shown in photo no. 1. You will notice that although the flood was pointed at the object, it does not look light, like a piece of silver, which it is. The only light areas are the linera hot spot at the base of the triangle, the faint scratches on the surface of the piece, and the light, circular shape which is the reflection of the chrome surface of the shutter. The dark area in the center of the circle is the lens, and the dark area around the circle is the reflection of the black lens-board of the view camera. So, instead of photographing a piece of silver, I photographed the camera.

The solution is to give the piece something light-colored to reflect. In drawing no. 2 you can see that the set-up is almost the same as drawing no. 1, with these exceptions: a sheet of stiff, white, matte-finish paper has had a hole cut in its center and fits tightly around the lens barrel. Also, the lamp is aimed UP at the paper, not down at the object. The lamp should not be too close to the axis of the lens in order to prevent flare caused by internal reflections within the lens. You will notice in the drawing that the camera is now taking a picture of the illuminated paper, as reflected off the silver. A hot spot can't happen because the paper produces a diffuse reflection. Photo no. 2 shows that with this set-up much of the piece is light but since there must be a hole in the paper for the lens, it still gets into the picture in the form of a dark disc.

There are a few ways to correct this. First, you can put a tiny object under one end of the piece to tilt it. Now it reflects only the paper and not the lens. Photo no. 3 shows the result of tilting the object. Other ways are to increase the lens-to-subject distance to increase the field of view; then move the piece slightly off center, out of the axis of the lens. This is obviously out of the question if you are doing color slides, but is an acceptable solution if you are shooting negatives and plan to enlarge and crop the negative later.

Now we will try shooting the formed piece using the same set-up shown in drawing no. 1. Photo no. 4 shows two hot spots at the head and tail. Then there are numerous dead black areas which are reflections of the dark room, the camera, my dark slacks and other dark objects in the room. The total result is a relatively confusing, overly contrasty picture, lacking detail.

With an object like this, placing a reflective sheet of paper around the lens, as was done in drawing no. 2, is only partially helpful because most of the plans of the object are not at the precise angle necessary to reflect only the paper surface back into the camera. Photo no. 5 shows the resulting picture. As you can see, there is some improvement over photo no. 4. There is no shadow around the object. The dark areas are not so dark, and it is possible to make out more detail showing the actual form of the object.

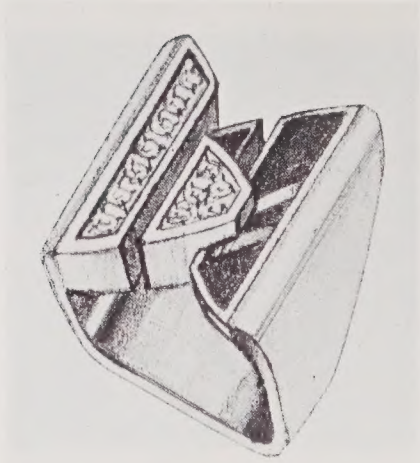
The only way to eliminate all the black areas is to give the object only white areas to reflect. But that means surrounding the piece with white paper so that no matter what angle the piece has, it has no choice but to reflect white. In drawing no. 3 a paper cylinder has been placed around the piece. The cylinder's diameter must be large enough so no part of it is included in the field of view. The height of the cylinder can vary to suit your purpose, but obviously it would be awkward to have one greater than your lens-to-subject distance because it will not fit under the paper reflector. I would suggest preparing a number of cylinders in advance and trying them out until you get just the right amount of black reflections to show detail and provide contrast. Photo no. 6 shows the result of set-up no. 3. The cylinder was very high and almost touched the paper reflector. Now there are no black areas except around the eye, the piece is almost uniformly light in value, shows plenty of detail and contrasts well with the background. It may pay to experiment with cylinders of varying shades of grey if more differences in value are desired in the piece.

A cylinder of about half the height of that used in photo no. 6 was used to make photo no. 7. As you can see, it allowed some of the dark surroundings in the room to be included.

Experimentation is very useful in this work and every piece of jewelry or holloware will present a different problem. Fortunately, with a single-lens reflex you don't have to waste film to find out what the results of your experiments will be. I often keep a piece of white paper in one hand and move it around the piece while looking through the viewfinder. You should try this as an exercise and amaze yourself at how it can literally change the appearance of the object.

Now for some variations. Suppose you prefer to photograph a piece hanging on a vertical surface, or the object is simply not in a position that permits you to use a copy-stand as shown in the drawings? The basic relationship between camera, object, lights, reflective sheet and cylinder remains essentially the same. The camera can be on a tripod or hand-held. The reflective sheet still fits over the lens. The light still aims back at the camera from about a 45 degree angle, and the cylinder or other enclosure can be held in place with tape. Also remember that there are times when you will need both cylinder and reflector or just one of them.

When photographing holloware the principles and set-up remain about the same except that the reflector and enclosure are much larger. With holloware it is useful to keep handy a number of large sheets of black and grey mat board. These can be used as backgrounds, or placed to the side of the object to control reflections. Experimentation is a must and it should be done with three basic principles as a guide: (a) When you photograph a highly reflective object, you are really taking a picture of the surface reflected BY the object. (b) Therefore, you must illuminate the surface your object is reflecting and not the object itself. (c) You must control the color, texture, size, shape and position of the surface your object is reflecting.



Fumiko Fujita, man's ring, black onyx, twelve .03cts. diamonds.

SCHUETZ JEWELRY DESIGN CONTEST WINNER ANNOUNCED

The winner of the 1978, fifth annual, George A. Schuetz Memorial Fund Jewelry Design Contest, administered by GIA, is Fumiko Fujita of Japan. Miss Fujita, an employee of Miwa Co., Tokyo, submitted a rendering for a man's ring featuring black onyx and twelve .03 cts. diamonds.

Miss Fujita receives an award of a $300 scholarship for any jewelry-related training at an institution of her choice.

The design contest was established in the memory of George A. Schuetz, former president of Larter & Sons, Newark, NJ.

The contest is open to anyone. Designs are limited to men's jewelry. All entries are judged on the basis of beauty, originality of design, feasibility of wear, manufacturability and the effective use of stones and metal for men's jewelry.

Designs must be original and cannot have been previously exhibited publicly or offered for sale. Entries are made in the form of renderings or wax models. Actual pieces or photographs are not acceptable.

The panel of judges this year included: Robert Ahrens, jewelry designer for Van Cleef & Arpels of California; Lilyan Collard, Donavan & Seamans Co., Los Angeles; A.R. Shalberg, GIA Jewelry Arts Supervisor and Jacqueline Becker, GIA Wax Carving Instructor.

In announcing the winner, the award committee congratulated Miss Fujita for her prize-winning entry, and expressed their appreciation to the many other contestants for submitting entries.

Information about the 1979 Schuetz Design Contest will be available in the fall from the Gemological Institute of America, 1660 Stewart St., P.O. Box 2110, Santa Monica, CA 90406.

ALMA EIKERMAN JEWELRY AND SILVERSMITHING FELLOWSHIP AWARD

Professor Thomas Coleman, Chairman of the Fine Arts Department, Indiana University, Bloomington, Indiana, on April 26, 1978 announced and gave the first annual Alma Eikerman Jewelry Design and Silversmithing fellowship award of $500 to Andre van Bergeijk, a junior who has taken six semesters of metal thus far, and plans two more classes his senior year.

EDITOR'S NOTE: Professor Eikerman joined the Fine Arts Department of Indiana University in 1947, after serving with the American Red Cross in Italy during World War II, and with a B.S. from Kansas State College in Emporia, a Master's Degree from Columbia University, and prior teaching experience at the University of Wisconsin and Wichita State University. Her mandate in the then renascent department was to build a strong program in jewelry design, not many of which existed at that time. She promptly set about this with the energetic determination that was to become legendary and among her colleagues sometimes a bit unnerving. Alma met her challenge with the greatest success. Her artistic and academic achievements have brought national and international recognition, honor, prestige, and many students to herself and to Indiana University.

EDITORIALS

EDITOR'S NOTE: Because of the variety and nature of the Letters-to-the-Editor, SNAG and the Goldsmith's Journal cannot verify or be responsible for the materials these letters may contain. It is therefore suggested that you carefully analyze and verify all information herein. We shall consider publishing responsible letters which refute any information we publish.

Dear Editor,

I would like to relate some of my experiences in relation to schools and universities to which I have applied for teaching positions.

First, I would like to point out that my application package is neat, easy to read and handle, and that every one contains proper materials for the return of slides and photos. The approximate cost of each application is $20 (this includes postage there and back, slide cost, resume cost, transcript fees, slide solders and photos and cost of envelopes). I feel that I take extra care to insure respect to the reviewer and the return of my materials.

For the past year I have been sending my applications to institutions only where there is an opening. Most schools have been very good about returning slides and photos, and many are returned with a very nice letter (which I appreciate very much). A few schools returned what I felt to be a particularly rude letter (which is uncalled for since I am treating them with the utmost respect and professional attitude).

My biggest gripe is with the schools that say they want to keep my application "on file". I certainly do not mind them keeping my resume and transcripts. But I do need my slides and feel that if I should be "called on at a later date" that I could then submit an updated portfolio.

This year I have written to Humber College in Ontario approximately three times asking them to return my slides that were included in an application to them June 2, 1977.

I realize that my experiences are certainly not unique. I would like to hear about other smith's experiences when applying for jobs and particularly those who applied to Humber College.

Marcia Gorra-Patek

Dear Editor,

I have received your letter of April 11 and thank you for your interest in our current exhibit. I hope the enclosed photos and literature will be of help to you.

For your information, we are a new art gallery specializing in enamel art. In addition to the gallery we have an ongoing workshop where enameling and jewelry techniques are taught.

The current show features the fine cloisonne jewelry of Linda Sherman and James Rausch. Linda is the enamelist and Jim is the goldsmith. A review of the show will be forthcoming.

If I can be of further assistance to you, please do not hesitate to contact me.

Joan Itzcoviyz

Dear Editor,

We are tentatively organizing a slide presentation which will be the focus of a seminar titled "New Uses of the Traditional Metal Techniques of Japan: Survival Into The Future" at the World Crafts Council Conference this Sept. in Kyoto. We ask the readership of the Goldsmiths Journal for slides of metalwork depicting techniques and/or materials of Japanese origin. We are also interested in slides of work influenced by Japanese design or thought.

Slides should be labeled with name, title of work, date of execution, size, materials and techniques, and sent in plastic sleeves. A slide key, on a separate page, should include or explain the source of the techniques, materials and/or design, what or whom has influenced you to work within the Japanese mode, plus any information that cannot be placed on the slide itself. Slides and slide key should arrive by Aug. 1, 1978.

After the seminar/slide presentation, the slide set will be presented to Yasuki Hiramatsu, President of the Japan Jewelry Designers Association, for their permanent collection. Those not used will be returned as soon as possible. We hope for a meaningful presentation in Kyoto.

Thanking you in advance for your cooperation.

Hiroko Sato Pijanowski and
Gene Pijanowski
615 Kossuth St.
Lafayette, IN 47905

Dear Editor,

I happened to come across a copy of your magazine in London and found it to be a very informative piece of work.

I think that the American tradition of craftsmanship is much undermined by the Americans themselves, always looking to Europe for their culture, rather ignoring the fact that many of them originated from Europe, but now have a far freer and more complex creativity than their counterparts across the Atlantic who are continually stiffled by tradition.

I myself work in steel, titanium, brass, copper, resin and enamel as well as precious metals.

I am at the moment at the Middlesex Polytechnic in London studying jewellery design, and in the coming year I have to do an apprenticeship to a jeweller as part of my course, and I was exploring the possibility of working abroad.

I would like to know of anyone who would be interested in taking on an apprentice. I am in my second year at college. I have worked for Booty Jewellery of Bond Street in retailing. I have worked on the bench for Simply Silver in London, manufacturing and I am at present studying for my gemmological exams at Sir John Cass College. I am free from July 30 for a year and can be contacted until that time at the following address: Jane Suren, Middlesex Polytechnic, Cathill, Cockfosters, Middx., England.

Jane Suren

Dear Editor,

I'm a new member and I am much impressed with the Journal. I like the art and designs you show, but I also very much appreciate the information on techniques and tools. . .

My full time work (until this week) has been in metallurgical plant (an electric furnace smelter) as engineer and plant manager.

About 5 years ago a Houston jewelry contractor told me he was not being fairly treated by his regular gold refiners. I am a chemical engineer and I found that gold refining techniques (there are several) are not terribly complex. By following a policy of recovering all possible gold and by scrupulously returning all recovery I now have a small number of occasional, but steady clients for this work. I also recover silver, platinum and palladium if present in worthwhile quantities.

I mention this because I believe someone wrote to the Journal asking if anyone in SNAG did such work.

It is my wish to be at the conference in St. Louis in June.

Roland Loewen
117 N. Holly Dr., Bayton, TX
77520

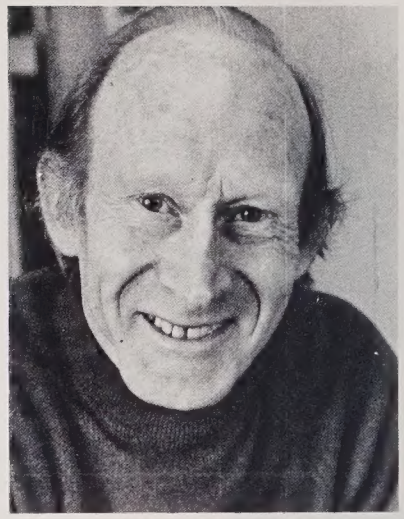
Dear Editor,

I would like to respond to the statements made by Pahaka (Feb. issue), and Stanley Lechtzin (April issue), concerning the Saenger National Juried Jewelry and Small Sculpture Exhibition.

Saenger National Exhibition was co-sponsored by the National Endowment for the Arts, the University of Southern Mississippi, the Hattiesburg Civic Arts Association, and the Saenger Center. The National Endowment for the Arts funded the exhibition in the amount of $1000. All other costs were underwriten by the Hattiesburg Civic Arts Association. The Saenger Center provided us the cultural arts center free of charge and the University of Southern Mississippi provided the accounting and budgeting aspects of the grant. Other than that, the total exhibition was planned, implemented, and disseminated by two people: Dr. Thomas B. Slater and Mr. James T. Davis, both assistant professors of art. They received no monies nor any fringe benefits from the University, the grant, the Hattiesburg Civic Arts Association, or the Saenger Center for the Arts.

At no time were entry fees for this exhibition used to offset the costs of this exhibition. The entry fees were returned to the artists in terms of cash awards of merit.

Sincerely,
Thomas B. Slater and
James T. Davis
Project Directors of the
Saenger National



"Watchmaking taught me an invaluable lesson in humility; while it appears to be human-like in its stubbornness, no way could I force or coax a watch to do my will."

John Murphy

John Murphy, gold bracelet

JOHN MURPHY—AUTOBIOGRAPHY

Born August 22, 1916, into a family of farmworkers with a long tradition of educational and cultural barrenness, my life from the beginning was uncomplicated and simple. There was only one object in life: Survival. But my father had a sense of humor and my mother had an uncultivated sense of beauty. My paternal grandfather had been outstanding as an athlete. Ferns, County Wexford, was the place of birth and Ireland, too, at that time was fighting for her survival. Because of that, I was referred to in the family as a 'Rebellion Bird', the first of seven children.

At fourteen, my parents somehow managed to let me attend a technical school three miles away. Eight months later my schooling came to an end: my parents simply could not afford to keep me in an unproductive capacity. However, it was a very worthwhile eight months and I was introduced to many wonderful things. In my young innocence, I believed steel to be the hardest thing in the world and therefore, indestructable. Imagine my sense of wonder then when I saw my teacher demonstrating the cutting of steel with a saw. And to see with my own eyes steel melting under a blow torch. That sense of wonder is still with me every time I work at fusing gold or silver. And may well be the seed planted in my mind that in time grew to my love of fused abstract forms in gold.

At home again I dabbled at watch and clock repairing; and would have liked an apprenticeship in watchmaking or to work in a garage, but there wasn't a hope in hell. To survive I had to leave home, that meant leaving Ireland. I made for England and joined the Royal Airforce where I was trained as an aircraft technician and served in the Second World War.

When the war was over, I settled in London and was employed as Chief Inspector with a firm producing master measuring instruments. Going through the continuous motion of rejecting other men's work was too closely related to the war-time act of destruction for my peace of mind. I wanted to get right away from all that, so I took a course in watch making, which was sponsored by the government for the ex-serviceman. And from there into a small watch-repairing business of my own in London.

Watchmaking taught me an unforgettable lesson in humility: while it appears to be human-like in its stubborness, no way could I force or coax a watch to do my will. It definitely would not go and behave itself until I had accepted the simple truth of its unmovable logic. It demanded and received from me unconditional surrender. Who was I to challenge the physical laws of the universe? One war was enough for me.

A watchmaker's shop is only one step removed from jewellery. They are associated as twin trades in the public mind. Soon I was taking in jewellery repairs, and after a time became skillful enough and had gained enough confidence to make a piece when asked to, although, at this point, jewellery itself was uninteresting to me.

When news came over the radio that it was the only day in living memory no war was being fought anywhere on earth, I remember thinking: there must be something more to living. Survival assured, what then? Quality of life! It was necessary to do something creative. Perhaps writing—I liked the short story.

After winning a story competition held by a local writer's circle, I entered in an open short story competition sponsored by the Writers and Artists Club, Haymarket, London, and won second prize. After collecting the prize and a bottle of whiskey, I met Abu, the political cartoonist of England's weekly Observer. Through the contents of the bottle he said that I was extravagant with material and could stretch it much further in cartoon form. I made my debut as a cartoonist in Shankars weekly, the Indian National Humourist magazine.

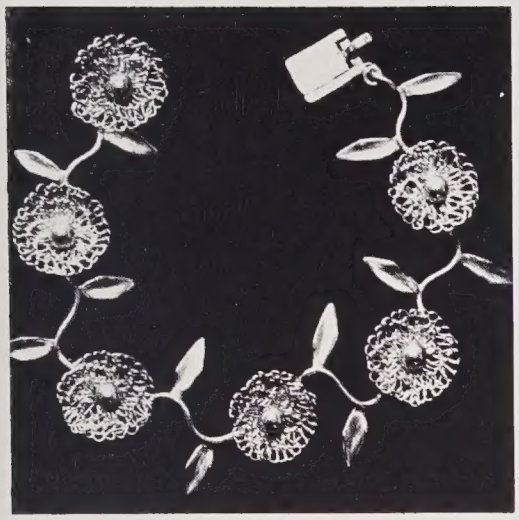
Doing cartoons as a break from writing, and writing as a break from jewellery, and jewellery as a break from watchmaking, I was fully occupied and growing ambitious. I wanted not just a little piece of the world, but all of it. I had allowed the cart to get before the horse, and found myself with an ulcer. In the Airforce, I had been a successful athlete, and had won a Victor Ledorum. Having always been fit, I could not accept the fact that there was something wrong and had ignored the warning twinges. Now it was too late for treatment to be effective and I had to undergo a major operation. Nearly three-quarters of my stomach was removed and I was desperately weak for a long time to come.

Just before going into the hospital, a young couple had come to me to make their engagement ring. She was a nurse; he liked a flutter on the horses. It seemed odd, when he asked me if I would mind waiting for the final payment on the ring until after my return from the hospital. Later, word came to me through a mutual acquaintance that this young man true to his gambling nature had found the odds weighed against me coming out alive. When I tracked down and safely collected the debt, I challenged him about his despicable action. He was very reasonable and I had to agree when he pointed out that had things gone according to his reckoning, he would have gained something, and I would never had missed it! Anyway, I was glad for that £15. It was all the money I had left.

Restarting the business, I located a one-room shop which I divided into two parts: the shop and the workshop, separated by a counter, half of which served as a workbench. This arrangement made it possible for the clients to see me at work and nearly all my customers became friends. One particular man who had become a frequent caller would stand silent and intently watch my hands as I repaired a watch or made a piece of jewellery. One day, he asked me to repeat some movement I'd made with tweezers. The time had come for me to ask him why he was so interested and what his job was. He was a brain surgeon and from watching me at work he had been able to stream-line his own use of tools and save a vital four minutes in a particular brain operation.

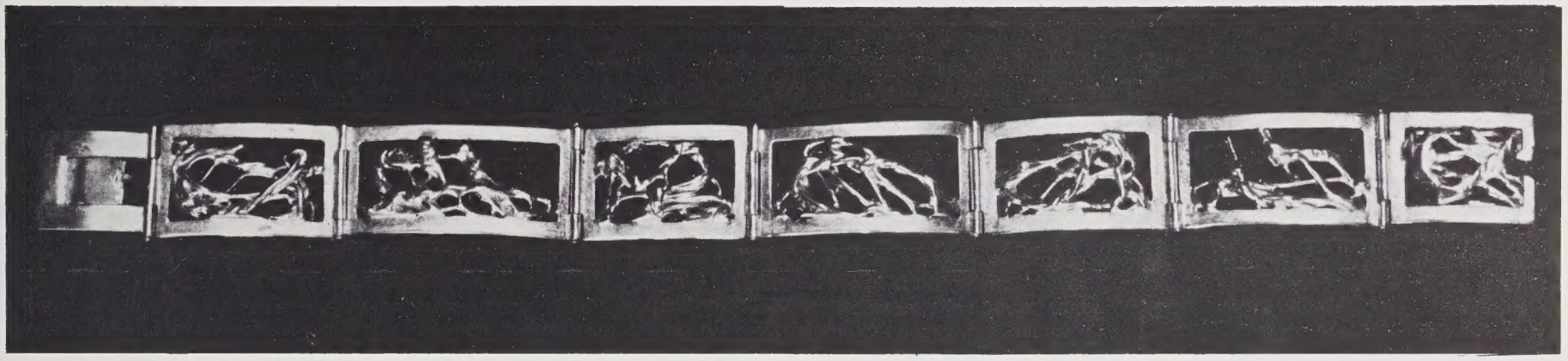
To ease the burden of work on my limited energy resources, I gradually worked up a modestly successful retail business in the shop. This in turn allowed me more time on making jewellery which had now become my prime interest. I was doing my own thing but was too involved in the fight to keep alive to know, or care, what was going on in the rest of the jewellery world. Then I read somewhere that De Beers (Diamonds) were holding a competition for an Engagement Ring in the Modern Idiom. What was "Modern Idiom"? It meant one thing to me; a challenge to static convention and stagnation. The idea was tantamount to open rebellion and appealed to me immensely. The closing date was only a short way off — no time for research of any kind to give me a lead on how to go about it. I would have to rely on my own resources to see me through.

"Embrace" received an award. Not the major prize but enough to confirm that I was on the right wave-length and that I had entered a new area of awareness.



Deborah Murphy, gold bracelet, developed from the weaving technique

John Murphy, gold bracelet



As demand for my stuff grew, the British Council of Industrial Design invited me to submit samples of my work for assessment with a view to joining their organization. I submitted about twelve pieces and was voted on to their panel of Designers.

To ensure security for my family, I arranged to have a number of suitable designs mass-produced and marketed. It was to have been a surprise Christmas present. But a few days before Christmas, there was a domestic bust-up (leading to a divorce). I cancelled the Christmas present idea, sold my business and was free to return to Ireland.

Back home in my native Ferns, I had thought of writing a book while I explored the countryside on a bicycle and worked at regaining my health and strength. Soon it became apparent that what was needed in Ireland at that time were people who would DO things rather than talk about doing them. I postponed the book and started into work again using my bedroom as a workshop.

As appreciation of my work grew, assisted by my nephew Martin, I worked at a build-up of pieces to exhibition proportions. A former school mate built for me a workshop with showroom in the village and I moved in. Incoming orders convinced me that the time had come to think about starting the small factory in Ferns that I had always dreamed of. I had developed a particular line of jewellery especially for that purpose. The Bank and Government Organisations were willing to back the venture. But there simply was not available enough people with the basic skills to launch the dream. To train craftsmen, starting from scratch, would have taken too long and would have stopped my own production with consequent loss of customer contact. Altogether it was too much for only one man to tackle in the time available. That was a great disappointment. But there was the consolation that loners, like myself, have an important part to play in the scheme of things by acting as buffers between the aesthetic needs of human beings and the dictates of the machine.

Deborah and I met in Ferns. She was enthusiastic about my jewellery: a young woman of discriminating good taste, borne out by the fact that she extended her interest to include me. had found the liberal-minded atmosphere of the Dublin area to be stimulating when I stayed there with my exhibition. We acquired a shop in Dublin, moved up in 1971, got married and continue to live there happily working together making jewellery, Deborah being my apprentice.

In response to several invitations, I found myself giving a series of lectures. Facing a class of 17 on my first day, I noticed an oldish, white haired man hovering in the background, staring at me. Then, on both our parts, sudden recognition: Tom! John! While he pumped my arm up and down he kept repeating "I knew you'd make it! I knew you'd make it!" It was Tom Carthy, my long ago Technical Teacher. And now he reintroduced me to the class as the lad that he had tried to teach over forty years ago.

I am sometimes asked what sort of people come to me as customers and I am reminded of a young woman who came to me in London for an engagement ring. She didn't care what it was like or what stone it had as long as it would cost five hundred pounds. I said that I would get one for her direct from a wholesaler. She said OK. Intrigued by this strange attitude, I ventured to ask why. She replied: "After spending five hundred pounds on me, he'll think a long, long time before jilting me."

I know that I am a craftsman. Sometimes I am referred to, generously, as an artist. Whatever the answer, I am close enough to both to see that the craftsman and the artist "home-in" on the same star. Where does that star lead us? Through successive crises of human predicament speeded-up and made more urgent by the rapid growth of science and technology. Before science, there were so-called "absolutes" and "ultimates" laid down that served as "infallible" reference points for human behaviour. The artist and the craftsman coped with the situation. That world of dreamy shadows disappeared in the light of reason. There emerged a tension, sometimes a conflict between the powers of reason and intuition, between science and the arts. And that confusion still persists.

TECHNICAL INFORMATION

THE TARNISHING OF SILVER— A LITERATURE SURVEY 1959-73

by A. J. Harry

(This report furnished by The Worshipful Company of Goldsmiths, courtesy of Peter Gainsbury, Director of Research.)
This survey was carried out at the City University Centre for Information Services, London, under the supervision of Mrs. J. S. Rennie.

ABSTRACT: The literature on the tarnishing of silver (80-100 wt. % Ag) over the last fifteen years has been evaluated. The mechanism and kinetics are examined, covering the effects of humidity, atmospheric contaminants and other tarnishing environments. The metallurgical factors discussed include nature of the metal surface and alloying additions. Electrodeposited silver coatings and electrical contact materials are treated separately. Cleaning methods and inhibitors are only briefly considered. Other methods of tarnish prevention are discussed, including metallic coatings, oxides and chromate coatings, protective wrappings and atmospheric control. Methods of tarnish testing and film thickness measurement are briefly described. It is concluded that further work is required in the areas of alloy development, tarnishing kinetics, tarnish testing and composition of the tarnish film. 115 references.

INTRODUCTION: Silver is a metal of great industrial and artistic importance due to its high electrical and thermal conductivity, malleability and pleasing appearance. In the United Kingdom the lowest legal jewellery and silverware standard is at present the Sterling grade (92.5% min*). This level may be lowered to 80% Ag since this level is accepted in Germany and many other European countries.

Although the term "tarnishing" generally refers to the films formed on silver under normal atmospheric conditions it was decided for technological interest to include some instances of tarnishing in other media at ambient temperatures. This report is primarily based on research carried out since the 1961 Burkhardt and Schlegel survey (16) of methods of tarnish protection for silver alloys containing 80% Ag. There has also been a recent review of the tarnishing mechanisms and prevention methods by Halahan (40) which was biased towards the preservation of antiquities.

*NOTE: All percentages used in alloy compositions refer to weight per cent.

THE TARNISHING MECHANISM:

Nature of the film: The film is generally stated to consist chiefly of silver sulphide (Ag_2S) formed in the presence of low concentration (1ppm) of hydrogen sulphide (H_2S) in the atmosphere. The formation of Ag_2SO_4 has been reported when SO_2 is present (17) and Halahan (40) has reported the occurrence of stromeyerite ($CuAg_2S$) in archaelogical specimens. There is certainly some silver oxide (Ag_2O) present since all metals adsorb oxygen molecules onto their surfaces at ambient temperatures. This oxide layer should prevent the silver from further attack but the presence of water in the atmosphere causes formation of hydrogen peroxide which reacts to produce defects on the Ag_2O lattice. Silver cations can then diffuse through the oxide layer and come into contact with corrosive substances in the atmosphere such as sulphide ions. The formation of Ag_2S badly disrupts the oxide lattice (40). Junod (48) and Tripp et al (104) showed that Ag_2S is an intrinsic (n-type) semiconductor at ambient temperatures. Silver ions are therefore highly mobile through the sulphide layer and growth continues. The film varies in colour passing through a range of interference colours before becoming black, the true colour of Ag_2S (17, 40).

Kinetics of film growth: The Rate Law—There has been some dispute as to which rate law is obeyed. The kinetics of any chemical reaction are determined by the slowest step which in the case of silver is the diffusion of the gas inwards through the film. Halahan (40) reports that this leads to a parabolic rate law which may be modified by fissures in the sulphide film. A parabolic rate was also found by Palatnik and Gorban (74) who measured the rate constant as 4.4×10^{-13} Haldun and Teremi (41) found that linear or parabolic kinetics could be followed depending on the shape of the test specimen (wire or sheet respectively). In studies of the tarnishing of Ag-Pd and Ag-Au alloys (up to 90% silver) Abbott (1) found a linear rate up to a critical transition thickness followed by a cubic rate law. He concluded that the diffusion of the gas through the film would effectively be "short-circuited" by diffusion along dislocations and/or grain boundaries. Abbott's theory is possibly reinforced by the work of Keil and Meyer (50) who found that the growth controlling mechanism in the formation of Ag_2S on silver whiskers was surface diffusion.

Rate measurements by Bennett et al (7) and Burge et al (14) tend to reinforce the findings of both Abbott (1) and Haldun and Teremi (41) where initially fast rates were obtained followed by a slowing down beyond a transition thickness. Rates have usually been calculated from gravimetric measurements but Rickert and Tostman (84) studied the Ag/Ag_2S phase boundary reaction electrochemically. Results were in good agreement with gravimetric values. St. Mrowec and Rickert (99) described the movement of atoms in the tarnish layer quantitatively from diffusion measurements at 400 C.

Factors affecting the growth rate—The main factors are humidity, nature of the environment, temperature and metallurgical condition of the metal.

Humidity—It has been generally established that the greater the relative humidity the greater the tarnishing rate (17,40). Pope et al (78) found that the rate was particularly sensitive to humidity at very low H_2S concentrations (approx. 0.01 ppm) and that lowering the humidity lowered the rate. This was conclusively demonstrated by Bennett et al (7) who found film growth was completely halted in dry nitrogen.

Nature of the environment: Atmospheric tarnishing agents—Although the formation of tarnish films is attributed to atmospheric H_2C, Pope et al (78) showed that the tarnishing rate is relatively insensitive to both H_2S and SO_2 concentrations, humidity being the most important. Acids and dust can cause penetration of the underlying oxide film on silver and promote further tarnishing (40).

Other environments—Other sulphur containing substances can promote tarnishing. Many rubbers contain sulphur and can tarnish silver in contact with them (17). Lohmeyer (59) found enhanced tarnishing of table silver due to the presence of sulphur in the hosepipe of domestic dishwashers.

Aviation turbine fuels contain sulphur compounds and some elemental sulphur. Fuel pump failures due to tarnish build up have been reported (103) and standard strip tests have been devised to assess fuel corrosiveness (13,101,103).

Schikorr and Volz (89) reported tarnishing caused by cardboard which was attributed to elementary sulphur and sulphur compounds in the cardboard fibre. Tests confirmed that H_2S was liberated in the presence of water vapour and was responsible for the tarnishing.

Silver may also be "tarnished" by halogens and their compounds. Although there is no H_2S present the films can form by similar mechanisms. Instances of this phenomenon are tarnishing by gaseous iodine and alkyl iodides (21,64) and aqueous bromine (57,58).

Temperature—The rate of tarnishing increases with temperature like most chemical reactions.

Metallurgical Factors: The metal surface—Allpress and Sanders (2) and Russian workers cited by Halahan (40) have shown that atoms with the lowest coordination numbers are the easiest to remove. Hence a smooth surface which will have a statistically higher number of atoms with low coordination numbers than a rough one and is consequently more resistant to tarnishing.

Fischmeister (31) argued that since structure varied with crystallographic orientation then the tarnishing rate should also show a dependence. Allpress and Sanders (2) say this effect may be subtle because metal surfaces contain a high concentration of kink sites. The evidence of Mosle and Anft (70) tends to reinforce Fischmeister's ideas (see 3.2.1).

Schlotterer (94) showed that there is an epitaxial relationship between the sulphide film and the metal.

Two basic orientations were found the faces of one set of Ag_2S crystals coinciding with ⟨110⟩Ag and the faces of the other with ⟨100⟩Ag. Bernard (5) demonstrated that the adsorption of sulphur on a silver surface was thermally reversible.

The 1965 work of Pope and Moss (76) showed that iron inclusions in the surface of a silver foil caused uneven sulphiding in 1-2 ppm H_2S at rt. Their 1967 work (77) demonstrated that the iron level was critical. Above 150 mg/cm^2 the tarnishing rate decreased sharply from a rate of 75 times that for undoped silver. The effect is attributed to iron blocking active silver sites at the higher concentration while catalysing the release of sulphur from H_2S at the lower concentration.

Effect of cold work—Cold working a metal increases its internal energy making it thermodynamically unstable. Halahan (40) reported Russian work where this effect caused increased tarnishing of antiques.

Effect of alloying additions—Alloy additions are usually made to silver to harden it, the most common being copper because of its non-deleterious effect on the silver "colour". However, copper increases the tarnishing rate of silver (17,42) as do most elements (16,40). Copper is usually added to Sterling silver but Duckett et al (27) have suggested it could be replaced by tin. Comparable mechanical properties were obtained and the silver-tin alloy had superior tarnish resistance, especially if preoxidised. Halstrom (42) found tarnishing was retarded with a 1.5% silicon addition to silver but silver-copper alloys were still preferred because of their superior mechanical and electrical properties.

The 1961 report by Burkhardt and Schlegel (16) is the most recent major examination of silver alloys. They concluded that the production of non-tarnishing alloys of good colour (essential to the jewellery and silverware industries) with adequate ductility was unlikely. Haritani et al (43, 44) have recently patented a number of complex alloys with adequate tarnish resistance and hardness while retaining enough ductility for deep drawing. The alloys contained approximately 7% tin, 9% indium, 2% zinc plus minor additions of aluminium and beryllium. The colour of the materials was not described.

Other alloys have been used as electrodeposited coatings and contact materials (see Section 3).

ELECTRODEPOSITED SILVER AND ELECTRICAL CONTACTS:

Electrodeposited silver and alloys: Pure silver—Electrodeposited silver is generally more tarnish resistant due to its smoothness on a microscopic scale (see Section 2.3.4.1). The crystallographic orientation of the deposits appears to have an effect on the tarnishing rate. Mosle and Anft (70) showed that deposits with⟨211⟩ or ⟨211⟩ + ⟨100⟩ textures were far more resistant than those with⟨311⟩ or ⟨100⟩ + ⟨111⟩.

Alloys—Electrodeposited silver-tin alloys of good tarnish resistance, colour and hardness have been reported by Matsushita (62) and Viglione (106). Burkhardt and Schlegel (16) carried out extensive work on silver-cadmium at Battelle, Frankfurt.

The exact composition of the alloy deposited depends on both composition temperature and current density (16,62,106). Biestik (8,9) stressed the importance of rinsing the plated components in weak acid to remove bath residuals, finger marks, etc. A slight increase in tarnish resistance was effected.

Bath additives—Plating is usually carried out in aqueous NaCN but corrosion inhibitors may be added at this stage. Saifullin et al (88) found that aluminium, beryllium and magnesium sulphate additions increased tarnish resistance by being adsorbed at the grain boundaries. Matulis and Agranovsky (63) added NH_3- derivatives which effectively inhibited sulphide formation at the surface. A similar effect was achieved by Rajagopalan and Aravamudhan (81) using 1,2,3 - propanediamine and morpholine.

Effect of substrate—silver is frequently electroplated onto copper in electrical applications (9,32,81). Brass (45) and impurer grades of silver (46) can also be plated successfully.

Porosity in the plating can be reduced by first electroplating nickel onto the copper (32). A 3μ nickel intermediate layer has been shown to reduce tarnishing at temperatures above 150 C (20).

Electrical Contacts: Materials—Pure silver is too soft to be used where continuous abrasion is involved and in contact applications is usually alloyed with gold (1,42) or a platinum group metal such as palladium (1,79). Small amounts of silicon (42) and beryllium (79) have been used.

Contacts may be coated with tin (30), gold (71,95) or rhodium (71) to give increased tarnish protection, Gold however, does not appear to be very effective. Schmidt-Brucken and Bretz (95) found gold plated relays were tarnished more than unplated silver in an atmosphere of 1 ppm H_2S, 3 ppm SO_2 at 10 g/m^3 absolute humidity. Ag_2S formed on exposed silver areas was noticed to creep over the gold. This effect has been investigated by Egan and Mendizza (29) who found the phenomenon did not occur with rhodium and palladium plated specimens.

Electrical conductivity—The effect of tarnish films on the conductivity of silver contacts has been investigated by Tripp et al (104) by measuring the temperature coefficient of resistance at −196 to +143 C. Electron tunnelling was dominant in the Ag_2S at cryogenic temperatures but at ambient temperatures the sulphide was an intrinsic semi-conductor. Fissures in the film caused the temperature coefficient to fluctuate randomly between negative (pure Ag_2S) to positive (untarnished silver). Mathewson et al (61) showed that a tarnish layer has only a small effect on the behaviour of conduction electrons in the underlying metal. Chiarenzelli (19) found that contact resistance increased with film thickness which depended on exposure conditions (See appendix 1).

Effect of lubrication—Chiarenzelli and Henry (18) found no increase in contact resistance when contacts were lubricated with a paraffin/polyphenyl ether mixture. The friction coefficient was reduced from 2.0 to 0.2 and tarnishing was effectively reduced. Halstrom (42) recommended that oiled contacts should not be drastically cleaned with solvents such as trichloroethylene as a highly active surface is produced. Mild soap solution was preferred.

CLEANING OF TARNISHED SILVER:*Electrolytic Methods*—There have been a number of recent patents (11,68,83,102) for electrolytic cleaning methods based on the "household" method described by Butts and Thomas (17) and recently demonstrated by Klie (51). The silver acts as cathode and an aluminium container as anode. The aluminium may be replaced by magnesium (83) and sodium carbonate, -bicarbonate, -chloride, or tripolyphosphate (17,83) can be used as electrolytes. The advantages of this method are cheapness and lower silver loss than with abrasive cleaners.

Abrasive Methods—Most preparations contain an abrasive such as calcium carbonate silicon oxide or aluminium oxide, a dilutent (water or a lower alcohol), a complexing agent and an inhibitor.

Patents have been taken out on abrasives containing inhibitive compounds based on alkyl aryl mercaptans (22,23,24,54,111,114) and other compounds containing as -SH radical such as octadecyl thioglycollate (34) and stearyl thioglycollate (35). The action of the -SH group to form -SA_g which can form a colourless protective layer if the carbon chain is long. Dialkyl disulphides have also been used (36,98). Other companies have included inhibitors based on alkylbenzylthiols (26,72), ammonium polyphosphate (28), dithrocarbamates (65) and silicone waxes (12,115). Schlegel (93) found that cleaning with abrasives containing carboxylic acids gave better tarnish resistance than cleaners containing mercaptans.

Non-abrasive Cleaners—A wide variety of chemicals appear to remove tarnish layers. Among those reported are aqueous sodium sulphite stabilized mercaptalkyl pyrrolidenone (113), cetyl ethonylate (52) and thioglycolic acid plus $SnCl_2$ (69). Thiourea has proved effective (112) and is incorporated in Goddards *"Silver Dip"* (40). Rothweiler (85) mentions a method where the silver is dipped into an unspecified aliphatic hydrocarbon for 30 sec. at 20 C. A transparent coating is produced which does not affect solderability.

METHODS OF TARNISH PREVENTION: There are three basic types and effects of commercial inhibitors and only a brief description is given here (see also section "Abrasive Methods".

Most inhibitors fall into two groups: (a) Based on aryl mercaptan or acetyl glycollate-type compounds. (b) Based on 2-mercaptan benzothiazole (2-MBT). (c) These compounds are dissolved in ether and applied by dipping or rubbing. Typical compositions have been developed by Warner (108,109,110). (b) The silver is treated anodically in solutions containing various combinations of 2-MBT, water, NaOH, NH_4 and morpholine. A typical treatment is described by Rajagopalan and Aravamudhan (80). Kotone and Hori (53) have patented various solutions of this type.

Other inhibitors have been based on alkane mercaptides (55,90). Kroll and Sanders (55) claim these are less susceptible to oxidation than mercaptans.

Protective Coatings: Metallic coatings—These may be applied by electroplating dipping or spraying. Although generally effective they cannot be easily removed and are expensive.

RHODIUM—Electroplated rhodium is the most common because a thin coating does not alter the silver colour (17). An electroplating of rhodium 13.5% platinum was used to protect silver medals (49) and Meyer (66) has plated a 0.03 rhodium layer onto gold-coated silver to prevent tarnish.

GOLD—This does not appear to be very effective (see section 3.3.1) although Bacquias (3) claims cathodic treatment for 5-10 min. at 3-7A/dm^2 produces more durable coatings.

TIN—This is commonly used and a 0.002 in layer can provide adequate protection in extreme environments such as sulphurous hot springs (30). Tin-silver alloys have also been used (3).

PALLADIUM—This has a similar effect to rhodium in protecting gold plated silver from tarnishing (29) and a 0.5μcoating gives adequate protection to silver plated brass (45).

OTHER METALS—Other platinum group metals may be used, eg iridium (17). Electroless chromium can be used in applications where the preservation of the electrical properties of silver is important (33). Nickel is not effective in aggresive environments (30). The use of aluminum has been reported (96) although the real protection is given by the stable aliminium oxide layer.

Inorganic coatings—These conclude oxides, chromate and tin salts. Detailed accounts have been given by Biestek (10) and Halahan (40).

Oxide coatings—An oxide which is more stable than silver oxide will effectively passivate and mechanically protect silver, provided there are no flaws on the film. Coatings are produced catophoretically from alcohol- or ammonia-stabilized sulphate solutions. Ban et al (4.73) and Saifullin (86) agree that BeO is best deposited at pH 5.6-5.8 at a current density of 9mA/dm^2. Skaliks and Vater (97) recommended higher current density (50mA/dm^2) although their solution continued tartaric acid in addition to NH_3 and $BeSO_4$. Saifullin et al (87) also showed that BeO gave better protection than either Al_2O_3, MgO or TiO_2. Dettner (25) found that ThO_2 and ZrO_2 were also effective and Burge et al (15) have examined SiO_2 and MgF_2 coatings.

Chromate coatings—These can be produced by simply dipping in various solutions or electrolytically. Chromate coatings are claimed by Ciriack (20) to passivate adequately up to 150 C. The coatings are normally colourless although a reddish tinge has been observed (16). Simple immersion methods usually involve hot chromic acid (8) although Irokawa (47) has patented a two-stage rt process using chromic acid and alcoholic CrO_3. Electrolytic methods involving alkali metal chromates are common (25,38,39,82). A galvanic method is described by Goldie (39) in which the silver is placed in a chromate solution in contact with a base metal.

Tin salts—Tin salts, such as $SnCl_2$ exhibit a passivating effect but are only effective in high sulphide concentrations (16,40).

Organic Coatings—These include greases, silicone resins (100) and lacquers. This form of coating tends to discolour and are not usually mechanically tough (16,40). A water soluble lacquer has been developed by Schlegel (91) which is of interest where permanent treatment may not be required.

Atmospheric Control—It is impractical in most situations to remove all atmospheric contaminants but several methods are used in practice. Lotz (60) patented a process for protecting silver in transit by flame spraying the inside of the container with copper. The Cu_2O formed absorbs any H_2S present. Minster and Conon (67) use FeO to remove H_2S.

The absorbent may be introduced into a protective wrapping material such as textiles, paper or plastics. Schlegel (92) patented an impregnated wrapping containing sub-group V metal salts (particularly antimony and arsenic), while Tulka et al (105) used NaCu-chlorophyllin.

METHODS OF TARNISH TESTING: Most workers have carried out some form of test to evaluate the effectiveness of inhibitors, coatings and alloys against tarnish. However, there appears to be a lack of uniformity of test conditions.

Test Conditions—A selection of tests which have been applied is given in Appendix 1. Most workers have attempted to simulate natural conditions where an H_2S concentration of 0.01-0.05 is present (78) although a concentration of only 1 part in 600 million is required to produce tarnishing (40). Pope et al (78) stressed the need for caution in using accelerated tests with high H_2S levels to predict results for actual conditions due to the marked effect of humidity at low H_2S concentration (0.01 ppm) and high initial rates (see "The Rate Law"). Chiarenzelli (19) found poor concentration between laboratory and field conditions although Biestek (8) found a good correlation between accelerated tests in $(NH_2)_2$ S(10 min. immersion) and a 30h exposure to 0.1%H_2S at 94% relative humidity.

Other non-gaseous tests have been used. A "flowers of sulphur" contact test has been used by Chiarenzelli (19) and Baquias (3) recommends the Buna test for the evaluation of protective treatments. This involves contact with synthetic rubber in sun-light. Immersion tests in aqueous Na_2S have also been reported (81,106).

Measurement of Film Thickness: Optical—Ellipsometry is the most common optical technique (6,7,14) and has been found to correlate well with measurements made using transmission electron microscopy (7,14). A reflectivity method described by Lang and Leinweber (56) requires knowledge of the optical constants of the film and base material.

Electrical—Potentiometric measurements have been made by Hasko et al (46) while electrical resistivity is usually measured for contact materials (19,95).

Piezoelectric—Volrabova (107) describes the use of a piezoelectric microbalance to study the protective action of cyclohexylamine o-nitrophenolate on electro-deposited silver. The method is limited because the test substance must be deposited onto the piezoelectric crystal (quartz) and very aggressive test environments cannot be used due to corrosion of contacts within the apparatus.

CONCLUSIONS AND RECOMMENDATIONS—There have been no significant developments in tarnish prevention methods or suitable alloys since the Burkhardt and Schlegel report in 1961 (16); A parabolic rate law for tarnishing is indicated although further work is required to confirm this; There is a need for a standard tarnish test which will ease comparison of the effectiveness of inhibitors, coatings and alloys; The composition, structure and conditions of formation of the tarnish film needs to be further examined. An area of particular interest could be electrical contacts where the ionization of air is a possibility at high voltages.

APPENDIX: LIST OF ABBREVIATIONS AND SYMBOLS:

ASTIA (US)—Armed Services Technical Information Agency
DPS—Deutsche Patentschrift (German Patent)
OLS—Offenlegungschrift (German Preliminary Patent)
ppb—parts per billion (1 in 10^{12})
ppm—parts per million (1 in 10^{6})
rt—room temperature
< >—crystallographic direction
μ—micron (10^{-6}m)

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Appendix 1: Test Conditions

Ref No.	Author	Material	Time of exposure	H_2S concentration	SO concentration	Film thickness (A)	Humidity	Remarks
7	H. E. Bennett R. L. Peck D. K. Burge & J. M. Bennett	Electro-deposited silver	1h 24h 1 week 1 month 1 hour	 0.2 ppb 10%	 o.2 ppb 0	1 2-6 15-30 60 100	– – – –	 The best atmosphere was considered to be 'normal' atmospheric conditions
19	R. V. Chiarenzelli	Pure silver	170h 178h 2-3 yrs	"Flowers of Sulphur" 1-5 ppm Field conditions	 0	– –	85% relative 85% relative Field conditions	Tarnish film Ag_2S only ,, Tarnish film consisted of Ag_2S + Ag_2O
75	J. Pivonka and	silver plated steel, partly inhibited	11 days	39.4 mg/day	11.93mg/day	–	100%	H_2S and SO_2 added to test chamber daily. Uninhibited areas tarnished
78	D. Pope, H. R. Gibbens and R. L. Moss	High purity silver	1h 40m	0.01-0.02 ppm 0.02-0.05 ppm	2 ppm 2 ppm	– –	– –	Both "Dry" and "Wet" tests were carried out Marked tarnishing under "wet" conditions in both H_2S levels
95	H. Schmidt-brucken	silver contacts and gold coated silver contacts	up to 70 days	1 ppm	3 ppm	–	100 g/m^3	Some tarnishing after 2 days

Rather than try to dig or punch out a broken drill bit, just boil the object in a saturated solution of alum and water. The process is called "Hydrolizing". The released hydrogen puts the iron oins in solution which affects a release of the steel drill bit. A gold and silver ring treated in this manner showed no ill effects. The remains of a 26 ga. steel drill just fell out in less than ten minutes.—Vada Beetler.

We recover our silver from an etching acid bath just by dipping in a piece of sheet copper. The accumulated mushy-like silver is washed off in distilled water, washed several times through filter paper. Then torch the paper with the silver in it and you will have a bead of pure silver. It works by the electro-motive series.—Vada Beetler.

Good books to have on hand for reference: *Hackh's Chemical Dictionary* by Julius Grant, The Blakiston Co.; *Metals Handbook*, The American Society of Metals, Metals, Park, Ohio. —Vada Beetler.

Try oil of wintergreen as a lubricant when piercing. A light coating on the sawblade eliminates choppiness and sticking, permitting a smooth stroke. Also good when engraving or scoring a fold. While grinding or drilling, I dip my steel bur or bit into a piece of fine steel wool soaked in oil of wintergreen. Keep the steel wool in a small jar or tin with a hole cut in the lid for dipping. Oil of wintergreen (methyl salicylate) is available at any pharmacy or drug store. It also inhibits rust and smells good too!
(Paul Klecka)

THOMAS JENKINS, 17th CENTURY MASTER CRAFTSMAN

by Judith Banister, freeman

(courtesy of Worshipful Company of Goldsmiths)

This fine silver, parcel-gilt covered cup c. 1670, acquired by the Company in 1923 and previously thought to have been made by Thomas Issod, is among a large number of pieces recently identified as by the silversmith, Thomas Jenkins.

Two magnificent covered jugs, one of 1685, the other made in 1698 by Philip Rollos overstruck with the mark of Thomas Jenkins, provided the essential clue to the identity of one of the most prolific and highly original London silversmiths of the second half of the 17th century. His mark, TI between escallops in a shaped punch, has long been mistakenly attributed to Thomas Issod, whom Arthur Grimwade has shown to have been a spoonmaker. The TI mark can now with certainty be ascribed to Thomas Jenkins. Indeed, his New Standard mark, entered in 1697, echoes the form of his earlier mark, which must have been first registered in or shortly before 1668.

As Mr. Grimwade has revealed, Jenkins was a freeman of the Butchers' Company. To whom he was apprenticed or where and when he started in business as a silversmith remains unknown, but by 1688 he was established at the Cornish Daw in Essex Street, Temple Bar, and lived there until his death in Jan. 1706/7. He was buried at nearby St. Clement Danes on 15th January.

Jenkins's long working life was also a prolific one. His earliest recorded piece is a large peg tankard of 1668 which was formerly in the Holms collection, his latest were the **Withers** candlesticks belonging to the Fishmongers' Company and a small footed salver of 1703. More than a hundred examples of his work have now been traced, scattered in collections all over the world. Every year from 1668 to 1694 is represented by at least one piece, but there were only a few to be found during the latter part of his life, when perhaps he spent most of his time as a retailer and in training his apprentices, among whom was the Huguenot Jacob Margas, who entered his first mark only a few months before Jenkins's death.

Besides the tankards, porringers, bowls and salvers that were the standard stock of every 17th century silversmiths's shop, Jenkins received many commissions for Church and corporation plate, toilet silver, candlesticks and sconces, ewers and basins, bowls garnitures of vases and flasks, an impressive wine cistern, and, rarest of all a silver warming-pan. He worked in all the fashionable styles of the day, and at times could be said to have been the leading, and on occasion the first, exponent of new ideas. Nearly all his pieces were of high quality, made in sturdy gauge silver in an age when rather flimsy pieces were sometimes acceptable so long as they conformed to the patron's desire for display. Jenkins was particularly attentive to the quality of decorative detail, and his work shows special emphasis on cast ornament, on cut-card work, on baroque repousse chasing and on flat-chased chinoiseries.

No fewer than twenty of the so far discovered examples of Jenkins's work are tankards or flagons, most of them of distinctive design and exceptionally heavy weight. One tankard weighs no less than 45 oz. Jenkins appears to have been the first London silversmith to have introduced the Scandinavian style of peg tankard, and he specialised in beautifully modelled cast and chased recumbent lion thumbpieces, often repeating the theme by three cast supports instead of using a spreading or rim foot. He also tended to favour a feature which, like his lion thumbpieces was seldom used by other silversmiths: a pair of corded bands applied near the base of the drum-shaped body and repeated on the rim of the cover.

While lions dominate, a few examples, especially tankards with cut-card decoration, have instead entwined dolphin thumbpieces, a few have grotesque sea-serpent handles in the continental manner, while a rare pair of tankards made in 1671 (formerly in the Foley-Grey collection) are supported on cast eagle feet. With thumbpieces to match, of course, the pair weigh a massive 102 oz. The same eagles are to be found nearer home in the magnificent cage-work cup and cover belonging to the Company and which may, perhaps, on analogy with the 1671 tankard be therefore dated to about 1675 or even earlier.

Jenkins must have numbered many important people among his patrons. Early in his career, in 1669, he made a pair of Sheriff's maces for Nottingham Corporation, and two years later he was responsible for the fine large two-handled cup and cover which once belonged to Samuel Pepys and which was by family tradition a gift from Charles II. The cup has a slightly tapering body, plain except for a border of applied cut-card work around the base, and some more cut-card round the scroll brackets on the cover. The handles are scroll-shaped with foliate detail, and rope-work in typical Jenkins style surrounds the foot and the cover. He made a very similar cup and cover the following year for the Corbet family, in whose hands it remained until 1929. Rather larger and heavier, the cup (now in the Untermyer collection) appears to have had a replacement cover, rather less elaborate than that which it certainly had until 1939.

In 1672, Jenkins also made at least one pair of large candlesticks of a most unusual pattern. On incurving octagonal bases chased with acanthus foliage, they have openwork bracketed stems rising to tall fluted sockets. Apparantly originally intended for domestic use, they were later given to the church at Strensham, Worcester. An identical pair by Jenkins, but not hallmarked, were also presented to a church, St. Mary Redcliffe, Bristol, and are now in the Museum there. Another unusual Jenkins piece of 1672 was a small and heavy two-handled bowl and cover now at Boston Museum of Fine Art, chased overall with foliage enclosing tear-drop shaped lobes, and with an elaborate rosette on the cover.

By now, Jenkins must firmly have been established as a silversmith of repute. With that, for the silver historian, comes the problem of silver made to special commission and not necessarily sent for assay and marking. About a fifth of Jenkins's known work falls into that category, much of it of outstanding interest, including chimneypiece garnitures, and other vases and bowls for display, a small plain spout pot perhaps made for a wealthy invalid about 1670, and four cagework cups and covers, of which those belonging to the Company and that in the British Museum (Franks Bequest) are the best-known.

Such cups, bowls, vases and other display silver illustrate Jenkins's mastery of the techniques of casting, piercing and chasing in the rich baroque manner. Repousse-chased scrolling foliage, festoons of fruit and flowers, knots of ribbon, grotesque masks, peeping amorini and superbly modelled peacocks and other fowl appear competently and confidently in the decoration of dozens of splendid showpieces. They probably date chiefly between 1675 and 1680, a period when long delays in the Assay Office apparently deterred many silversmiths from sending in their work, especially that made on commission and not "set to sale."

Not all Jenkins's finest work was delivered without assay, however. One of the most magnificent is the wine cistern of 1677, formerly at Stowe and now in the V&A. If not the most splendid — though many might consider it to be so — it is certainly his largest piece, 18½ in. long and weighing nearly 233 oz. It shows his skill at ordering the scrolling elements of baroque ornament, his fine repousse chasing and, of course, his superb modelling, manifest in the massive lion mask and ring handles.

It seems likely, on stylistic grounds, that Jenkins's unmarked repousse-chased work mostly dates from the 1670s. By the 1680s he, as a leading London silversmith, was gradually moving towards a neater style, or using flat-chasing to create those charmingly exotic chinoiseries used on porringers, salvers, scent flasks and other boudoir silver. More formal acanthus chasing typifies much of his work during the 1690s — such as the fine helmet-shaped ewer with its harp-shaped beaded handle and the companion dish with gadrooned rim made in 1686, a fine pair of square-based fluted column candlesticks of the same year and, of course, the first of the two great jugs that gave the clue to Jenkins's true identity. He did diverge occasionally from this new formality. The set of six great sconces made in 1687 and sold in Sotheby's in 1972 are perhaps his last essay in the dying baroque taste. More typical of Jenkins's work at this period is the boldy gadrooned but otherwise plain standing paten of 1692, "The Gift of ye Truely Honble & Religious Lady, ye Lady Ann Francklin" to St. Mary's, Rickmansworth, or, more homely but much rarer, the silver warming pan of 1690 made for England's most eminent lady, Sarah Jennings, Duchess of Marlborough. Its simple, functional yet elegant style betokens, as befits one of the foremost silversmiths of his day, the great new age which English silver entered in the early 18th century.

Mary A. Bangma, Container No. 7, copper, nugold, ebony, ivory, 4"x5"x3"

Robin Rutherford, "Emerging Silver", raised nugold, sterling silver, 7"x5"

Hillary Burns, sterling and walnut serving pieces, 7"

EXHIBITIONS

Renwick Gallery, Washington, D.C., Ronald Pearson: Silver and Gold, through July 9.

Paris, France, Canneto, June 14-July 4, 1978; Galeries Raymond Duncan, 31 Rue de Seine.

The Philadelphia Craft Show, Philadelphia, PA, Nov. 16-19.

The 12th Annual Juried Craft Exhibition of the Central Pennsylvania Festival of the Arts, University Park, PA, July 9-16.

Northeast Craft Fair, Rhinebeck, NY, June 20-21.

St. Louis, MO, "Media Mix", Craft Alliance Gallery, July 3-Aug. 2.

University Park, PA, "Objects of Play", Chambers Gallery, The Pennsylvania State University; toys, games, puzzles, and other playthings created by American craftsmen; July 1-20.

"Treasures of Early Irish Art", Museum of Art, Carnegie Institute, Pittsburgh, June 28-Sept. 24; Boston Museum of Fine Arts, Oct. 24-Jan. 21; Philadelphia Museum of Art, Feb. 26-May 27. The exhibition includes some 70 precious objects.

St. Louis, MO, "Around the Table", Craft Alliance Gallery, Aug. 6-30.

Asheville, NC, Craftsman's Fair of the Southern Highlands, Civic Center, July 10-14.

Knoxville, TN, Craftsman's Fair of the Southern Highlands, Civic Coliseum, Oct. 17-21.

Carmel, CA, "Contemporary English Jewelers"; six to seven leading English jewelers will be represented; Concepts Gallery, June 16-Aug. 27.

Galveston, TX, "Fourth Annual Clay, Metal and Fiber Invitational Exhibit", Galveston Arts Center, through June 30.

Berea, KY, Southeastern Crafts 1978, Berea College, June 15-30.

Layton, NJ, The 9th Annual Peters Valley Craft Fair, July 29-30.

Muncie, IN, 24th Drawing & Small Sculpture Show, Ball State U. Art Gallery, through June 25.

Concord, NH, 45th Annual Craftsmen's Fair, league members only; Aug. 1-6.

Newbury, NH, "The Annual Craftsmen's Fair of the League of New Hampshire Craftsmen," August 1-6, 1978, Mount Sunapee State Park.

London, England, "Rings & Rattlesnakes," July 5-28; second showing at Ashmolean Museum in Oxford Aug. 5 to Sept. 17.

Rosemary E. Gould, "Cloud Box", copper, mokume-gane, sterling silver, stuffed silk, 3"x1"x2½"

MICHIGAN STATE UNIVERSITY

Diana Whitmer Francko, "Silver Compact", enamel, sterling silver, stitched velveteen, plexiglass mirror, 4¼"x 3¼"x1¼"

WORKSHOPS

July 3-21, Summervail Workshop, Colorado Mountain College. Workshop includes metalsmithing and jewelry and enameling. For information, write: Randy Milhoan, Director Summervail Workshop, Box 1114, Vail, CO 81657.

July 24-August 11, Summervail Workshop, Colorado Mountain College. Workshop includes metalsmithing and jewelry. For information, write: Randy Milhoan, Director Summervail Workshop, Box 1114, Vail, CO 81657.

July 24-28, Donald Andrick on Enamels, Craft Center, 25 Sagamore Rd., Worcester, MA 01605; $60 tuition, plus additional fees. Write Center for more information.

July 10-28, Tim McCreight on Metal Jewelry, Craft Center, 25 Sagamore Rd., Worcester, MA 01605; $140 tuition, plus additional fees. Write Center for more information.

July 31-Aug. 11; Metal, Enameling, Dorothea Lee; instruction in techniques such as enameling, stenciling and others. For information, write: Richard V. Palmer, Administrator, Thousand Islands Museum Craft School, 314 John St., Clayton, NJ 13624.

Aug. 14-Aug. 25; Metal, Jewelry, Emily Sohier; basic metalworking techniques (primarily silver), advanced and beginning instruction. For information write: Richard V. Palmer, Administrator, Thousand Islands Museum Craft School, 314 John St., Clayton, NJ 13624.

July 14-16; 4th Rocky Mountain Metalsmithing Symposium, Lane Coulter, Coordinator, Colorado Mountain College, credit available. For information write: Metal Symposium, Colorado Mountain College, Box 1114, Vail, CO 81657.

July 24-Aug. 25; 11th Blossom/Kent Art Program, Kent State U. Includes art history, jewelry, graphic design, sculpture, print and printmaking, credit available. For information, write: Harol Kitner, Co-Director, Blossom/Kent Art Program, Room 222, School of Art, Kent State U., Kent, OH 44242.

Brookfield Craft Center is offering the following workshops:

1. July 10-14, Basic Jewelry, Pat Flynn, $72 for 5 all-day sessions
2. July 17-21, Casting/Jewelry, Pat Flynn, $72 for 5 all-day sessions
3. Aug. 4-6, Cloisonne Enameling, James A. Bennett, $52 for 3 all-day sessions
4. Aug. 7-11, Enamel Painting, Helen Hosking, $72 for 5 all-day sessions
5. Aug. 14-18, Constructed Jewelry, C. James Meyer, $72 for 5 all-day sessions
6. Aug. 21-25, Stonesetting, C. James Meyer, $72 for 5 all-day sessions
7. Aug. 28-Sept. 1, Metal: Fusion—Etching—Coloration, Sharon Church, $72 for 5 all-day sessions.
   (For information, write: Brookfield Craft Center, P.O. Box 122, Brookfield, CN 06804.)

June 12-16; Advanced Jewelry/Metal, U. of Montana will conduct workshop for 2 hours credit. For further information, contact: Natalie Paul, Montana Metal, Dept. of Art, U. of Montana, Missoula, MO 59812.

Arrowmont School of Crafts is offering the following workshops:

1. June 18-24, Enamels, Fred Ball, Jewelry, Michael Croft
2. June 25-July 8; Enamels, Fred Ball, Jewelry, Michael Croft
3. July 9-15; Enamels, Florence Illman, Jewelry, Richard Mafong
4. July 16-29; Enamels, Carol Adams, Jewelry, Deborah Aguado
5. Aug. 6-19; Jewelry, Chunghi Choo
6. Aug. 20-26; Knife Making, Albert Anderson; Metal Forming, Nilda Getty; Enameling, Harold Helwig; Casting & Fabrication, Mitsuko Kambe Soellner; Smithing, Jim Wallace; Non-Precious Metals, Elliot Pujol; Holloware & Raising, Walter Soellner

(Estimated costs include $25 registration fee, $75 tuition (per week), $80 room & board (per week—over four to room), and $7 materials fee (average). Write: Arrowmont, Box 567, Gatlinburg, TN 37738.)

1978 Workshop Series for Retail Jewelers, sponsored by Jewelers Circular/Keystone. Categories include: (I) Inventory Control & Management: Mackinac, July 18-19; Los Angeles, Aug. 15-16; (II) Sales Management and Motivation: Bar Harbor, June 23-24; (III) Financial Management: Bar Harbor, June 25-26; Atlanta, July 7-8; NYC, July 20-21; Los Angeles, Aug. 17-18; San Francisco, Aug. 21-22. (Write: Management Growth Institute, 572 Washington St., Wellesley, MA 02181.)

July 10-28; "Metal Arts", Albert Anderson. Write Penn State U., 410 Keller Conference Center, University Park, PA 16802.

June 19-23; "Basic Construction for Plaiting—3D Sculptural Forms", Earl Snellenberger; June 26-30, "Enameling Techniques for Jewelry" (not for beginners) with William Harper; July 3-7, "Jewelry Fabricated and Other Construction Approaches", Richard Mawdsley; July 10-21, "Japanese Metalworking Techniques" (covers toolmaking, Sen Zogan, Rokusho, Mokume-Gane).
(For further information, write: Peter Dahoda, Director, Craftsummer, School of Fine Arts, Miami U., Oxford, OH 45056.

July 24-Aug. 25, Jewelry & Small Sculpture Workshop, Mary Ann Scherr, Tom Markusen, Marcia Lewis and Don Drumm, Kent State U., Kent, Ohio, undergraduate and graduate sections, portfolios for admission are required. For information, Harold Kitner, Blossom-Kent Art Program, Kent State U., Kent, OH 44242.

June 19-30, Advanced Jewelry/Metals Techniques, directed by Chuck Evans, Bowling Green State U., Bowling Green OH. For further information, contact C. Evans, School of Art, Bowling Green U., Bowling Green, OH 43403.

July 10-21, Enameling on Copper, directed by Hal Hasselschwert, Bowling Green, OH. Write: C. Evans, School of Art, Bowling Green State U., Bowling Green, OH 43403.

Peters Valley Craftsmen offers 10-13 week internships (individual instruction) in jewelry/metalsmithing during the fall, winter & spring. In addition, weekend and summer workshops are offered in metals, blacksmithing, and other craft areas. Write: Peters Valley Craftsmen, Layton, NJ 07851. Call: 201/948-5200.

CONFERENCES

July 20-Aug. 18; Danish Goldsmithing and Silversmithing Workshop and Tour, Dr. Robert Coleman, Holst Anderson and Ellen M. Broker, U. of Copenhagen, Denmark. Workshop is for experienced craftsmen; submit 5 slides or photos; cost $1420. For information, write: Dr. Coleman, Art Dept., San Jose State U., San Jose, CA 95121.

July 10-15; Enameling, Kenneth Bates, 3 credit hours, graduate & undergraduate; or audit. For information, contact: Mark Baldridge, Longwood College, Farmville, VA 23901 (804/392-9359) Enrollment is limited to a first-come basis.

July 3-21, July 24-Aug. 11; Summervail Workshop for Art and Critical Studies, Metalsmithing; sponsored by Colorado Mountain College. For further information, write: Randy Milhoan, Director, Summervail Workshop, Box 1114, Vail, CO 81657.

Penland School of Crafts is offering the following workshops:

1. June 19-30, Jewelry, Jim Meyer; Enamels, Carol Wells; Lapidary, Ross Clifton
2. July 3-21, Jewelry, Jim Malenda; Enamels, Bill Helwig, Lapidary, Ross Clifton
3. July 24-Aug. 11, Jewelry, Sandra Zilker; Enamels, Beverly Palusky; Lapidary, George Parker
4. Aug. 14-Sept. 1, Jewelry, Jim Cotter; Enamels, Helen Hosking
5. Sept. 4-22, Jewelry, Hannelore Gabriel; Enamels, Steven Zeitlin. (Special jewelers in residence, June 19-20, are Mary Ann Scherr and Drewry Hanes.) Graduate and undergraduate credit available. For more information, write Penland School of Crafts, Penland, NC 28765.

June 26-Aug. 11, Course No. 059, "Introductory and Advanced Jewelry" and Course No. 269, "Electroforming"; both with Stanley Lechtzin; 4 credits each, undergraduate credit. PA residents: $48/credit; non-residents: $74/credit. (Graduate credit: PA residents, $65/credit; non-residents, $94/credit) A $50 non-refundable deposit will reserve a place for you. Make check payable to Temple U. and mail it, together with your name, address & course number and title, to Mr. Edward Plieninger, Business Manager, Tyler School of Art, Beech & Penrose Aves., Philadelphia, PA 19126.

July 1-7—Dallas Trade Mart Gift and Jewelry Show, Dallas Marriot Motor Hotel and Market Hall, Dallas, TX.

July 9-12—Southern Jewelry & Gift Show, Atlanta Hyatt Regency Hotel, Atlanta, GA.

July 22-26—RJA International Jewelry Trade Fair & Convention, New York Hilton & Americana Hotels, New York, NY.

Aug. 19-21—Pacific Jewelry Show, Los Angeles Century Plaza Hotel, Las Angeles, CA.

Sept. 3-8—Dallas Trade Mart Gift and Jewelry Show, Dallas Marriot Motor Hotel & Market Hall, Dallas, TX.

OPPORTUNITIES

The School of Art at Kent State University is offering a one-year appointment in jewelry/metals beginning Sept. 18, 1978 and ending June 8, 1979. This full-time position entails teaching 9 credits per quarter. Applicants should qualify for graduate faculty status since they will work with 5-10 graduate students each quarter. Position will carry Assistant or Associate Professor rank and minimum salary will be $13,500. Send resume, references, transcripts, and slides of professional work to: Jack D. Smith, Associate Professor of Art, Coordinator/Division of Crafts, Kent State University, Kent, OH 44242, before June 15, 1978.

METALS PHOTOGRAPHS WANTED

Sharp black-and-white photographs with contrasts are sought by Robert W. Cooke for a book manuscript on metals. Photographs (4x5 to 8x10) of top quality jewelry, flatware and holloware showing single subjects or a set, no groups, are needed. All work should have been designed and executed by the same craftsperson. Please attach to each photograph: your name, address, name of item, measurements, material(s), technical information and other items of interest. Full credit will be given for items used.

Contact: Robert W. Cooke, 250 Beech Terrace, Wayne, NJ 07470.

LECTURES

"The History of Enamels", a slide-talk by Jamie Bennett, Aug. 4, 8 p.m., $1 donation. The Brookfield Craft Center, Brookfield, CT.

August 4, "Survey of Enamels", James A Bennett, Brookfield Craft Center, Brookfield, CT, 8 p.m., $1 donation

NEW MEMBERS

We wish to congratulate the following new PRO MEMBER:

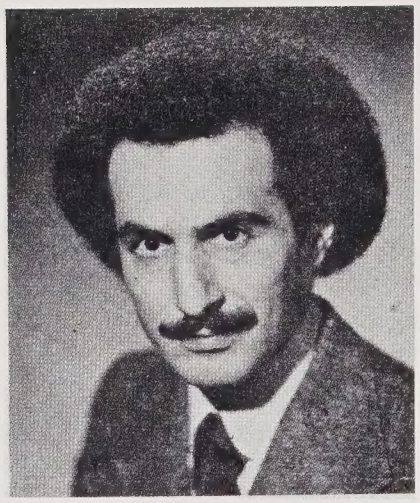
Gail Larson, Pocatello, ID

We would also like to welcome the following new members:

ASSOCIATE MEMBERS
Igor Slokan, Yugoslovia
Donald O'Brien, Seattle, WA
Gretchen Raber, Alexandria, VA
Kris Clark, Portland, OR
Betty Heald, Delaware, OH
David Olson, Berkeley, CA
Sharon Underwood, Virginia Beach, VA
Mary Ellen Matthews, Houston, TX
John Lazarowski, Burlington, VT
Louise Bingaman, Laguna, CA
Reta Gradner, Altoona, KS
Dickie Dell Ferro, San Angelo, TX
Virginia Sadler, Los Almos, NM
Joy Thompson, Joliet, IL
Mark Mirski, Winnisquan, NH
Forbes Robertson, Elsah, IL
Kenneth Bates, Euclid, OH
Patrick Murphy, Nelson, WI
Robbie Smith, Golden, CO
Mary Ellen Porter, Palo Alto, CA
Joan Parker, Carisle, MA
Garfield Butler, Chilliwick, Canada
Barbara Stranger, Summit, NJ
Myrle Fujii, Honolulu, HI
Barbara Walter, Stillwater, OK
C. R. Taafe, Smyna, GA
Julie Shaw, Birmingham, MI
Robert Martin, Glendale, CA
Beckerhoff in Stowe, LTD., Stowe, VT
Charlotte Haley, Dallas, TX
Maurice Helman, Jamaica, NY
Jules Warpiuk, Nelson, B.C., Canada
Thomas Michaels, Kent, OH
Cleve Funk, Phoenix, AZ
Joan Steele Murray, Georgeville, P.Q., Canada
Penelope Rostad, Milwaukee, WI
Pat & Suzanne Juneau, Lafayette, LA
Karen Gerstl, Riverdale, NY
Peter Jogaoda, Yuma, AZ
Charles Butler, Raleigh, NC
Mario & Fred Kenney-Egan, Detroit, MI
Eve Keller, Indianapolis, IN
Al Roth, Miami, FL
Timothy Fidge, Palo Alto, CA

STUDENT MEMBERS
Helen Mason, Hockessin, DE
Quealy Lewis, Houston, TX
David Hodgeson, Kennebunk Port, ME
Ann Vernon, St. Croix, U.S. Virgin Islands
Michael Gleason, Des Peres, MO
Gail Roeshman, Elkins Park, PA
Anthony D'Aniello, Philadelphia, PA
Evelyn Collins, Normal, IL
Gerald Benedict, Sewickey, PA
Ann Kruzel, Livonia, MI
Melissa Ann Feruhelm, Lawrence, KS
Dean Smith, Irvine, CA
William Goodson, Thomasville, GA
Michi Noda, Watsonville, GA
Martha Reading, Dallas, TX
Richard Bauer, Bloomington, IN
Maureen Pahlman, Sparta, IL
Jeff Lamm, Charleston, IL
Roy Bachelder, Park Forest, IL
Gabriella Kiss, Brooklyn, NY
Hilda Melchior, Fairbanks, AK
Audrey Katz & Dean Darley, Stone Mountain, GA
Linda Ettinger, Little Rock, AR
The Maryland Institute of Baltimore, MD
Jennifer Senko, Ann Arbor, MI
Patty Daunnis-Dunning, Brunswick, ME
Traude Wedding, Thunder Bay, Ont.
Maryllen Henderer, Wilmington, DE
Francie Epstein, Kansas City, MO
William Art, Bozeman, NY
Carl Foreget, Quebec, Canada
Ann Bogart, Narberth, PA
Marci Davis, Springfield, MO
Carl Hines, W. Lafayette, IN
Michael Parker, Willingboro, NJ
John Pries, Philadelphia, PA
Howard Bach, Tucson, AZ
David Bernoudy, Bayside, CA
Carol Windsor, Pullaman, WA
Ruth Cleverdon, Rochester, NY
Robert Bechtold, Webster, NY
Brent Keeney, Fresno, CA
Janet Hotson, Milwaukee, WI
Neal Kaplan, Boston, MA
Paul Keto, Maynard, MA
Mary Harrill Cooper, Gastonia, NC
Terry Fuller, Arcata, CA
Ann Andre, Milford, MA
Amy Nayler, London, England
George Filmer, Jr., Rochester, NY
Buffy Levin, Greely, Ontario
Ellen Fairchild-Flugel, Petersburg, VA
Mark Hastings, Ardmore, PA
James Johnson, Charleston, IL
Deborah Schwartz, Madison, WI
Margaret Callahan, Doylestown, PA
Pat Feinberg, Bowling Green, OH
Andrea Siegel, Brockport, NY
Joan Miller, Royal Oak, MI
Elaine Cohen, Rochester, NY
Elizabeth Fergus, W. Hennritta, NY
Susan Mueller, Lancaster, PA
Christine Cestello, Latrobe, PA
Judith Eden, Marina del Ray, CA
Gale Gand Bram, E. Cleveland, OH
Fred Guggenheim, Monsey, NY
Sarah Moreland, Milwaukee, WI
Barbara Povlich, W. Allis, WI

LIBRARY MEMBERS
The Arkansas Arts Center, Little Rock, AR
The Cleveland Institute of Art, Cleveland, OH
Bodycraft Galleries, Winston-Salem, NC
St. Lawrence College, Kingston, Ont.



Alan B. Kaufman

ALAN B. KAUFMAN BECOMES DIRECTOR, SPORTS AND PROGRAM COMPLIANCE, NBC

(Editor's Note: Alan is the volunteer attorney for the Goldsmiths Journal.)

The appointment of Alan B. Kaufman to the newly created position of Director, Sports and Program Compliance, was announced by Alan H. Gerson, Vice President, Compliance and Practices, NBC.

In his new position, Kaufman will be responsible for coordinating and supervising NBC's Compliance and Practices policies concerning NBC Sports programming, advertising and promotion. He will also be responsible for the day-to-day supervision of other major areas of the East Coast office of the Compliance and Practices Department, reporting directly to Gerson.

Since August 1974, Kaufman has been associated with the law firm of Fly, Shuebruk, Blume, Gaguine, Boros and Schulkind in New York, specializing in the practice of broadcast and communications law.

Born in New York City and raised in Michigan, Kaufman earned his J.D. degree from the Columbia University School of Law in 1974. During his studies there he served as a research assistant for Eleanor Holmes Norton, presently the Chairman of the Equal Employment Opportunity Commission, and for Dean Harriet Rabb and Professor George Cooper of the school's Employment Rights Project.

Kaufman completed his undergraduate degree in psychology at the University of Michigan in 1967 and commenced doctoral studies in psychology at Columbia University before entering law school in 1971. He has also taught in the Detroit and New York City public school systems.

He is a member of the Federal Communications Bar Association; the New York State Bar Association; the New York County Lawyers Association; the District of Columbia Bar Association; and Volunteer Lawyers for the Arts. He is currently serving as Co-Chairman of the Collections Committee of the International Radio and Television Society, Inc.

MAURICE ABRAMSON
—photo by Sam Harelick

Maurice Abramson, ring, cast 14 kt. yellow gold, set with eight square diamonds, one square emerald, and nine round diamonds

PRE-NATAL INFLUENCES
MAURICE ABRAMSON—
AUTOBIOGRAPHY

"The back of a piece must be as well finished as the front."

What might be of interest is the fact that I have not received any formal training in jewelry making. I hope I don't sound pretentious. Perhaps I should say I learned by osmosis, plus the fact there had also been pre-natal influences.

Let me go back in time. My grandfather was a gold jewelry craftsman in Russia. My father came into my mother's home at the age of 12 as an apprentice. He married his teacher's daughter (my mother) subsequently. My father arrived in New York about 1905, carrying with him a gold brooch which he had made. It was a horse studded with diamonds.

His first position as a craftsman was with one of the finest manufacturers on Fifth Avenue, N.Y.C. This firm confined itself to a clientele of extremely wealthy people, making such pieces that literally ran into the millions of dollars. Diamond tiaras, diamond-studded opera glasses, and even diamond-set dog collars were among the items that were made by this concern. My purpose in mentioning some of the above is to convey to you from where my influences came. If I possess any bent for impeccable standards, I must attribute it to my father. I recall as a child his mentioning "the back of the piece must be as well finished as the front."

Although there are firms today who still make this very costly diamond jewelry, I have no praise for their designs. On occasion, while in New York City, I walk by Tiffany's, Van Cleef & Arpels, and Cartier's, viewing the jewelry in their windows. Their designs in most cases are archaic, being very similar to what my father worked on fifty years ago.

When I was 15 years old, and during summer vacation from high school, I went each day with my father to the New York City workshop to learn diamond setting, which was my father's specialty. Toward the end of the summer I was entrusted to set diamonds into platinum watch cases. However, the thought that I at some future time would be involved seriously with jewelry was something I gave no serious consideration to as a youth.

Upon completing high school, I went full time to the Fine Arts Schools of the National Academy, N.Y.C., for five and a half years. Here I was taught the Latin names of bones and muscles, did meticulously painted nudes, portraiture, etchings and murals.

In the interim, my father, because of ill health, was forced to open a small jewelry shop in the town of Bayonne, NJ, where I always lived. He primarily was occupied remounting diamonds into settings then in vogue and doing special order work.

In the latter thirties, while we were still in the throes of the Depression, I left art school, at about which time my father died. Seeing nowhere I could turn for my own economic support and obliged to take care of my mother, I decided to continue with my father's little shop. I was quite successful in financial terms in building up a sizeable business selling the usual Bulova watches, and so forth. I employed an old gentleman from Italy, who would execute the designs that I would create for a client. During most of these years I managed to be the "Sunday painter" winning numerous awards on both the local and national level, including permanent museum representation.

About 14 years ago, the man who was my chief employee became ill and unable to work. At that time my "impractical" nature (so I was told my some) came forward to tell me to quit the retail business. I was then in my early fifties. Obviously my wife and I had goals and values other than materialistic ones. I wanted to follow my cultural interests, continue to paint, travel to exotic places, and adopt a new lifestyle. With some degree of uncertainty, I thought I had sufficient financial backing for my family to manage the rest of our lives economically. I was doubtful because at that time I had two children attending universities simultaneously.

After entering this new lifestyle, I visited the Newark Museum in New Jersey where I saw a display of jewelry work by Carolyn Kriegman of N.J., which greatly inspired me. With three decades of experience in commercial jewelry work, I suddenly realized one could make jewelry that was much mor innovative, creative, and need not be the cliche work I knew was being produced. I felt a compulsion to try it.

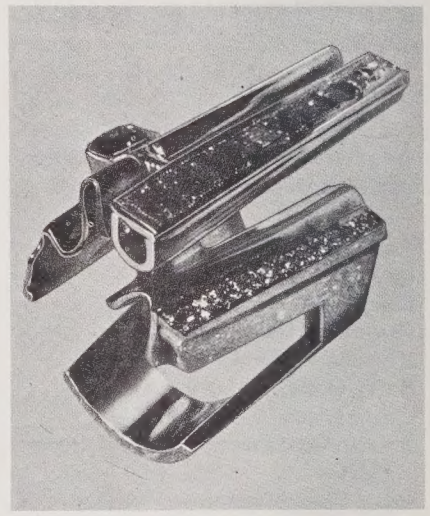
I went to the Lower East Side, NYC, where I was fortunate to obtain old jewelry benches, tools, rollers, scales, etc. Together with a few books I read and what I remembered as a youth seeing my father do, I started working in my home. It is amazing what the mind retains. Neither during my father's lifetime nor during the time I employed this excellent craftsman in my store, did I ever have intentions of making jewelry. Only on rare occasions, out of curiosity, would I stop for a moment to see what either one was doing.

Most importantly, I started immediately working with gold. I felt I must discipline myself by working in gold. I also started first working with wax to be cast by a commercial caster because I did not know how to solder.

It wasn't too long after that I started exhibiting. Then I began to get requests to start a class in my home from people who had more training than I had. This forced me to greater proficiency, since I had to compete with and excel beyond my students. So — I learned like the old entertainer, who learned on the night-club floor.

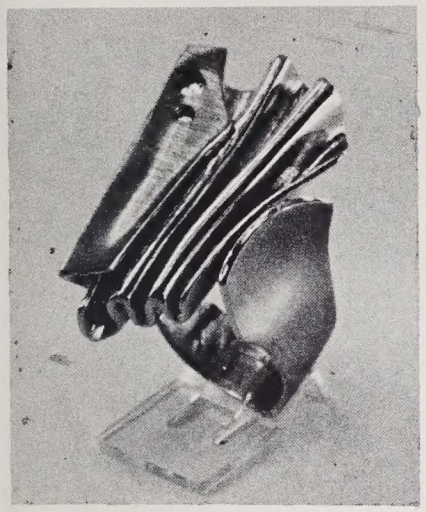
Around this time, I started to see what some of you very talented people were doing at the Contemporary Craft Museum, Fairtree Gallery, and in America House — all in New York City. (It is very unfortunate that we lost America House, it was a fine outlet for me too.)

Eventually I read of the colleges with the "professor-artist" in metalsmithing. As one who had always been connected with the commercial jewelry world, this was new to me, and was a revelation. I was also surprised to learn that metalsmithing is being taught in as many as 65 universities in the States. I wish to comment at this point that I seem to recognize that a good many of those who study at the universities become the teachers of new students in similar institutions. Many obviously feel most comfortable, secure and happy in the academic world and in no way do I mean to be critical of such goals. Yet, I notice some sense of frustration as in the writing of one member. He says, "The majority of work in the exhibit was a collection of exquisitely crafted 'things' — distantly related to



the real world — where on this good earth can one, working in this direction, make a livelihood?" At any rate, if a good percentage of the students eventually become the instructors at the universities, I wonder at times, will we someday find we have a glut of very proficient professional jewelry workers all confined to Academia.

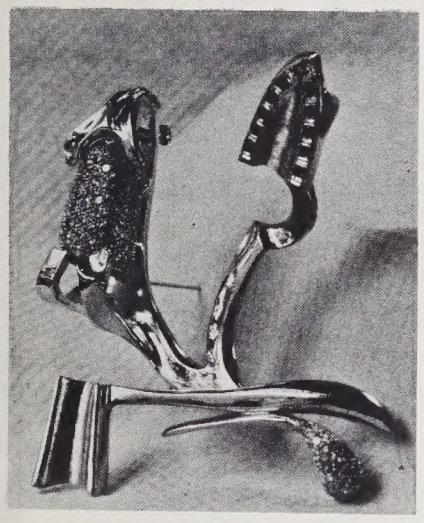
I shall go back to writing about me and my work. Eighty or ninety percent of the work I have been engaged in is commissioned. I primarily make new pieces of jewelry out of very valuable old diamond pieces that are being brought to me by a clientele developed through recommendation. When a client visits me at my home studio, I show photos of past work, wax models and a book of my sketches. In the presence of the client, while I am being shown the diamonds available, I develop a few rough sketches. However, I never allow myself to be "boxed in" with a meticulously done finished sketch. I cannot anticipate all that occurs while I am actually working at the bench. I want to be free to capitalize upon an accidental occurrence or a new direction I suddenly recognize as I work. Of course, I will never make artistic concession or do the cliche. In many instances my task is not an easy one in that I have to make a design that satisfies me and my client and that will accommodate the various diamonds my client has. In a sense, it is actually working in reverse. Generally, a designer makes a design and then fits in the number and shapes of the diamonds that the design requires.



Maurice Abramson, lady's ring, 14 kt. yellow gold

Maurice Abramson, pendant or pin, cast, 14 kt. gold, contains 80 diamonds set into two 14 kt. white gold sections, 3"x2½"

". . . in the craft world, deception and flim-flam cannot pass unnoticed; either you have it, or you don't."



After the design submitted is accepted, at times I find myself in a position where I must figure out if it is even feasible, and if so, just how to go about executing it. Naturally, the security of valuable diamonds is a factor also to be taken into consideration.

I do not believe I am offering any personal style signature in my work, although I most definitely lean towards contemporary styling. I enjoy versatility, new experiences, and new challenges. I am afraid that the artist or goldsmith who feels he "has arrived" in terms of a style is creatively dead, by constantly repeating himself.

Although most of my work is done in wax, I also execute some pieces directly in gold. It is my belief that each technique has its own inherent characteristics and that the design should dictate which technique is to be used. Of course, both techniques are often used on the same work. Sometimes a rubber mold is made of a commissioned work for two reasons. First, rather than show photos to a future client, with the molds I can show waxes of work I've completed. Secondly, in some instances, I've been able to use small sections of these waxes and combine them into new designs.

In some instances my original wax is first cast in silver, although the ultimate work is to be in gold. In silver I am better able to refine and finish the piece than in wax. From the silver piece, I make a rubber mold from which a new wax is produced — and this wax is now cast in gold. One can save gold weight also in this manner. However, it must be remembered that the second wax for the gold casting is reduced about ten percent in size in this procedure.

My work hours are extremely erratic in the studio which I maintain at home. The day may begin with a bike ride in the park while I think of just how I'm going to execute a particular work. Being engaged in some gardening during the day, I may work at the bench during late evening hours. No record is kept of hours spent on a commission work and the amount of time expended is never related to the price being received. I strive only to produce a faultless work no matter how long it takes.

During a lull period between commissions, I commence work on a piece purely for my personal satisfaction or for exhibition purposes. It is at those times that I receive great delight in picking up a fine piece of lavendar jade that I had purchased during my travels to Singapore, or a star ruby that I had acquired in New Delhi, and start developing something involving new challenges.

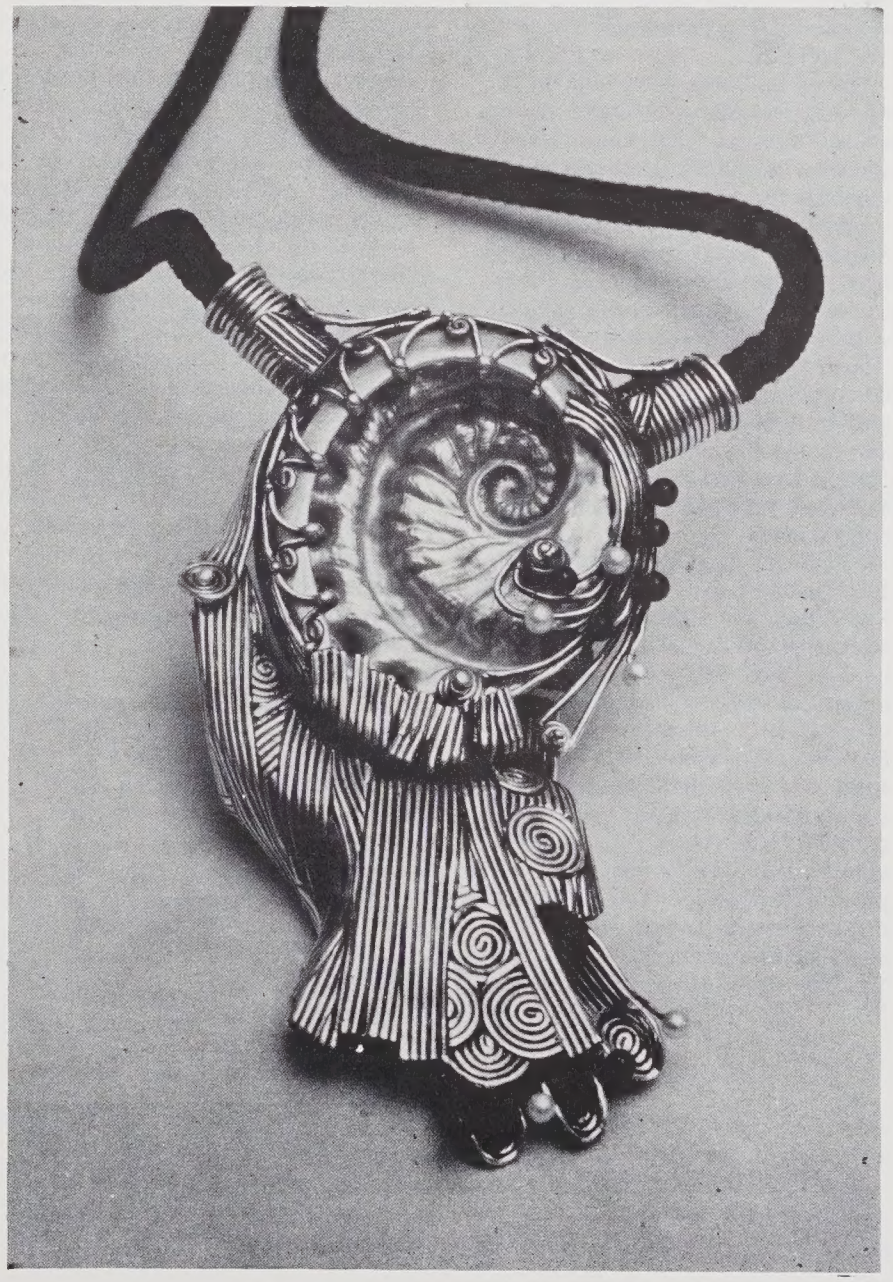
A few random and probably evocative thoughts as I draw to a close: I wonder on occasion about two of the essential factors with which craftspeople are involved — those being good design and good craftsmanship. Not so much whether one has priority over the other, but that there is in seminars and workshops an overemphasis on varied techniques — a devotion to techniques. I do not find it so regarding the matter of good design. The elusive or neglected factor seems to be good design.

At the risk of appearing peremptory, it appears to me that some craftspeople have put a formal curse on the term "jewelry", a term detested to some degree and mentioned only perjoratively. With swagger and pomposity a craftsperson said to me "I don't make jewelry — I make sculpture," and said with the implication that once gold and diamonds are used and when it is wearable, you cease making sculptures and now make jewelry.

Speaking as one having been for some years a painter, I observe that on remote occasions charlatanism and fraud can go unrecognized in the art world, often being masked with high-sounding language, but in the craft world deception and flim-flam cannot pass unnoticed; either you have it, or you don't.

Finally, since I've been engrossed in jewelry making for more than a dozen years and since I've stopped painting, I find my friends accusing me of being some sort of a renegade, turncoat, and deserter. Apparently, goldsmithing is not held with similar esteem as painting, and I am having difficulty defending all of you marvelous craftspeople and myself as well!

Maurice Abramson, pendant, sterling silver with shell, cast, plus direct fabrication, height 4½"
—photo by Allen Abramson



BOOK REVIEW

"HOW TO START AND RUN A PROFITABLE CRAFT BUSINESS"

Reviewed by Marcia Lewis

Reading this little book took me back to the days I spent in classes at San Diego State on how to teach. I had been playing 'teacher' since tree house days and had a pretty good idea that I could be a good teacher whether I took these classes or not. Teaching is something which comes naturally to me and I'm sensitive to the feedback I get from students and peers so I constantly change and learn. But if the instinct wasn't there, all the classes and books on how to teach wouldn't help a bit.

I have ambivalent feelings about this volume because, while it contains a few interesting tricks about taxes and bookkeeping, a good deal of the suggestions are just common sense. If one needs to be told some of these suggestions — one might do better to find another field to explore. The example which comes to mind immediately is on page 19 on Walk-In Selling— "don't try to be funny or cute." That is something a book can't tell you. Heaven knows some people can be cute and funny and sell socks to snakes. Some people just can't bring it off that way — but it's highly individual and subjective.

Finally, on page 59 there is an interesting comparison between United Parcel Service and Parcel Post — their advantages and disadvantages. It should be noted that UPS won't always accept jewelry or one-of-a-kind works. One office I used in Wisconsin would. The San Jose office would, but only if I'd swear on my mother's head that I could replace it if it was lost by making another. Here in L.A. they flat out won't touch it. They feel that if the piece is damaged, it's too difficult to determine value and court cases discouraged them long ago. I suggested that they do as Parcel Post does and just register the box for the declared value and only pay up if it gets lost. No payment for damages. The sender must be responsible for good packaging. This way, UPS would only be responsible for loss — which is only reasonable. And it wouldn't matter if the box contained the "Hope Diamond" or a Q-Tip. But, no go so far here in L.A.

REVIEWER'S NOTE: Having the opportunity to review books for the Journal places me in a unique position. Books are normally sent to me well ahead of the Journal's printing date which allows me several readings of each book and time to take a good look and to think about what is being printed and offered for sale. Most book buyers are not in this unique position; most don't have time or opportunity to examine what is offered and for the most part will take a quick look, maybe are impressed by size or photographs and will spend their money. I would like to encourage our members to make every effort to spend time, examine what is offered and if satisfied, then buy. Before a purchase, check in public libraries, university libraries and in some instances ask the publishers for an examination copy.

I'm sure the Journal would appreciate your observations and comments on reviews and in all honesty to the authors and publishers, if you like, please offer a counter-review. A multi-view approach could stimulate a more beneficial dialogue.

—by Chuck Evans

PUBLICATIONS

Art & Crafts Market '78, published in 1977 by Writer's Digest Books, $10.95. Listings include 4,498 markets on where to sell your architectural designs, fine art, cartoons, commercial art, calligraphy, crafts, animation, fashion designs and additional information.

Sweat of the Sun and Tears of the Moon: Gold and Silver in Pre-Columbian Art, 216 pages, LC 77-72685 ISBN 0-87817-208-4, price not set. To order, write: Hacker Art Books, Inc., 54 W. 57th St., New York, NY 10019; add 50 cents postage.

Early American Wrought Iron, Albert H. Sonn. Three-volume study containing historical background and thousands of examples, 727 pages, LC 77-73726 ISBN 0-87817-214-9, price $90. To order, write: Hacker Art Books, Inc., 54 W. 57th St., New York, NY 10019; add 50 cents postage.

Monograms and Decorations; handbook featuring 7 complete alpahbets, numerous monograms and other items in various period styles, 136 pages, clothbound, price DM 286.

From the Lands of the Scythians, illustrates the "ancient treasures from the museums of the USSR", 160 pages, D1910, price $9.95. To order, write: The Metropolitan Museum of Art, Box 255, Gracie Station, New York, NY 10028. Orders must be prepaid, $1.25 for shipping.

Arms and Armor: Guide to the Collection, a concise history illustrated with the Metropolitan's key holdings, Western and Oriental, 32 pages, paperback, D4013, price 75 cents. To order, write: The Metropolitan Museum of Art, Box 255, Gracie Station, New York, NY 10028. Orders must be prepaid, enclose $1.25 for shipping.

Treasures of Tutankhamun, I.E.S. Edwards, discusses and illustrates 55 objects with essays interpreting the period in which they were made and describing the discovery of the tomb, 176 pages, D2021, price $6.95. To order, write: The Metropolitan Museum of Art, Box 255, Gracie Station, New York, NY 10028. Orders must be prepaid, enclose $1.25 for shipping.

Tutankhamun's Jewelry, I.E.S. Edwards. Picture book illustrating and describing pieces of jewelry discovered in the King's tomb; 48 pages, paper, D2023, price $3.95. To order, write: The Metropolitan Museum of Art, Box 255, Gracie Station, New York, NY 10028. Orders must be prepaid, enclose $1.25 for shipping.

Gold Boxes: The Wrightsman Collection, Clare Le Corbeiller. Craftwork of 22 18th century gold boxes on permanent exhibition in Wrightsman rooms, 32 pages, paperback, D0712, price $2.95. To order, write The Metropolitan Museum of Art, Box 255, Gracie Station, New York NY 10028. Orders must be prepaid, enclose $1.25 for shipping.

Tutankhamun: His Tomb and Its Treasures, I.E.S. Edwards. Explains the excavation and the significance of the 3,300-year-old objects, 256 pages, cloth, D2024, price $25. To order, write: The Metropolitan Museum of Art, Box 255, Gracie Station, New York, NY 10028. Orders must be prepaid, enclose $1.25 for shipping.

BOOKS CONCERNING METALSMITHS IN PRINT
available at 30% SNAG discount from SNAG Book Club

Contemporary Crafts Market Place, compiled by American Crafts Council, R.R. Bowker Co., NY, $13.95.

The Navajo and Pueblo Silversmiths, John Adair, U. of Okla., Press, $7.50.

The Story of Jewelry, J. Anderson Black, Wm. Morrow & Co., $19.77.

Beginning Jewelry Notebook, Roger Armstrong, Kendall-Hunt Pub. Co., $5.95.

Modern Jewelry, Irena Brynner, Van Nostrand Reinhold, $8.95.

Indian Silver Navajo and Pueblo Jewlery, Margery Bedinger, U. of NM Press, $15.00.

Principles of Electroplating & Electroforming, Blum, William & Hogaboom, George McGraw, $24.95.

Jewelrymaking for Schools, Tradesmen, Craftsmen, Murray Bowin, Bovin, $7.95 paper, $10.95 cloth.

Silversmithing and Art Metal for Schools, Tradesmen, Craftsmen, Murray Bovin, Bovin, $7.50.

Metal Design & Technique, Wilhelm Braun-Feldweg, Van Nostrand Reinhold, $30.00.
Step By Step Knifemaking, David Boye, Rodale Press, $10.95 hard cover, $7.95 paper.
Creative Casting, Sharr Chaote, Crown, $8.95.
Creative Gold- and Silversmithing, Sharr Chaote, Crown, $5.95.
Metal Jewelry Techniques, Marcia Chamberlain, Watson-Guptill, $12.00.
Moulding and Casting, Carl Clarke, Standard Arts, $12.00.
Textile Techniques in Metal, Arline Fisch, Van Nostrand Reinhold, $15.00.
Handcrafting Jewelry, Design & Technique, William Garrison & Mere E. Dowd, Regenery, $14.95.
The Penland School of Crafts Book of Jewelry Making, John Coyne, Bobbs, $12.95.
Primitive and Folk Jewelry, Martin Gerlach, Peter Smith, $9.50.
Jewelry Repair Manual, R. Allen Hardy & John Bowman, Van Nostrand Reinhold, $7.95.
Tradition & Change, The New American Craftsman, Julie Hall, E.P. Dutton, $25.00.
Plastics for Jewelry, Harry Hollander, Watson Guptill, $16.95.
Silversmithing: A Basic Manual, Nicholas D. Humez, Little, Brown & Co., $6.95.
The Creative Lapidary, Frank W. Long, Van Nostrand Reinhold, $13.50.
Decorative and Sculptural Ironwork, Donna Z. Meilach, Crown, $7.95.
An Illustrated Dictionary of Jewelry, Anita Mason & Diane Packer, Harrow, $12.50.
Chicago Metalsmiths, Sharon S. Darling, U. of Chicago Press, $12.95.
The Design and Creation of Jewelry, Robert von Neuman, Chilton, $6.95 paper, $12.50 cloth.
New Directions in Goldsmithing, Harold O'Connor, Dunconor, $7.50.
The Jeweler's Bench Reference, Harold O'Connor, Dunconor, $8.95.
Jewelry Making, Greta Pack, Van Nostrand Reinhold, $8.95.
Contemporary Jewelry, Philip G. Norton, Holt, Rinehart, Winston, $8.95 paper, $15.95 cloth.
Handmade Jewelry Techniques and Design, Alison Richards, Funk & Wagnall, NY, $12.95.
Metal Enameling, Polly Rothenberg, Crown, $8.95.
Metal Alloys and Patinas for Casting, William S. Shearman, KSU Press, $4.50.
Inventive Jewelry-Making, Ramona Solberg, Van Nostrand Reinhold, $8.95.
Practical Silversmithing & Jewelry, Keith Smith, Van Nostrand Reinhold, $12.95.
The Art of Making Jewelry, Takashi Wada, Van Nostrand Reinhold, $10.95.
Metalsmithing for the Artist-Craftsman, Richard Thomas, Chilton, $9.95.
Contemporary Jewelry: A Critical Assessment 1945-1975, Ralph Tur-

Metal Techniques for Craftsmen, Oppi Untracht, Doubleday, $19.95.
Basic Metal Finishing, J.A. Von Fraunhofer, Chemical Pub. Co., $16.50.
Diebeners Mondgrammweek, Ruehle-Diebener, $143.00.
The Making of Tools, Alexander Weygers, Van Nostrand Reinhold, $8.95, $5.95 paper.
New Design in Jewelry, Donald J. Willcox, Van Nostrand Reinhold, $7.50.
Neuer Schmuck, Karl Schollmeyer, Wasmuth, $49.00.
Schmuck, Als Kunstlerische Aussage Unserer Zeit, Dr. Gerhard Bott, Schoner, $65.00.

WAYS TO WELD, 20 mins., 16mm, color, sound. Includes processes such as OxyAcetylene, Stick Electrode, Mig, Tig and Submerged Arc. For ordering: Mr. Gary Paul, Union Carbide Corp., Linde Division, Marketing Communications Dept., 5th Floor, 270 Park Ave., New York, NY 10017.

The Gallery of Contemporary Metalsmithing is making slides of pieces from their shows available for purchase. The first set from JEWELRY WITHOUT BOUNDARIES: PRECIOUS METALS, ACRYLIC and ENAMEL, featuring work by Bartow Daniels, Bob Natalini, Jamie Bennett, Beverly Palusky, Barbara Mail and John and Paula Harwood may now be ordered. For more information, contact The Gallery of Contemporary Metalsmithing, 250 Mill St., Rochester, NY 14614.

RMI Media Productions, Inc., has produced new films and slides on plastics:

8300—Introduction to Plastics
8301—Separating, Finishing and Combining
8302—Casting Plastics
8303—Thermoforming Plastics
8304—Coating and Laminating Plastics

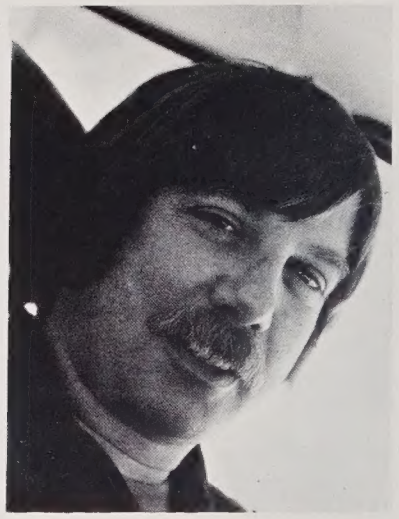
Price for each filmstrip is $30.00, and $58.00 for each slide set. To order, write: RMI Media Productions, Inc., 701 Westport Rd., Kansas City, MO 64111.

The film, SILVERSMITH OF WILLIAMSBURG, is available for rental, rates are for a three-day period, plus postage both ways.
For information, write: AV Distribution Section, Colonial Williamsburg Foundation, Box C, Williamsburg, VA 23185.

Slide kits are available on the following people: Maurice Abramson, Jay Adams, Glenda Arentzen, Joel Bagnal, Mark Baldridge, Peter Blodgett, Beverly De Jong, Bob Ebendorf, Gerry Evans, Arline Fisch, Robert Risher, Jacqueline Fossee, Nilda Getty, Drewry Hanes, Mary Lee Hu, David Keens, Marcia Lewis, Val Link, Richard Mafong, James Malenda, Tom Markusen, John Marshall, Kurt Matzdorf, Richard Mawdsley, George McLean, Jim Meyer, Albert Paley, Natalie Paul, David Pimental, Mary Ann Scherr, Heikki Seppa, Helen Shirk, Olaf Skoogfors, Toni Snyder, J. Fred Woell, Eleanor Moty, Laurie Spivak, Hannelore Gabriel, Lee Barnes Peck, Thomas Sandretto, June Schwarcz, Douglas Steakley, Harold O'Connor, Debra Lynn Gold, Eric Martin and Jamie Bennett.

Rental period is two weeks. There is no rental fee for pro members (except return postage). Rental fee for associate members and student members varies from $1-$2 per carousel (depending upon the number of slides ; carousels contain 20-60 slides) plus return postage. Write: Sandie Zilker, 1536 Hawthorne, No. 4, Houston, TX 77006. Please give a few weeks advance notice and make checks payable to Society of North American Goldsmiths.

A 13-minute, 16mm film on the Society of North American Goldsmiths is available to members for rental periods of two weeks. Associate members' fee is $5, plus return postage. Pro members' fee is return postage. Contact: Sandie Zilker, 1536 Hawthorne, No. 4, Houston, TX 77006.



Peter Blodgett
—photo by Rita Christensen

PETER BLODGETT
AUTOBIOGRAPHY

". . . it seems to me that many artists today are so concerned with the development of a style. . . or their own gimmick."

I was born and brought up in New York City, although I spent a good deal of time away at school where my main interests were model airplanes, bicycles, and music. As I grew older, I became very involved in motorcycles and cars. After an undistinguished school career, I went to Vermont, working on a farm and at a garage. The garage was an especially important experience for me, as I learned to appreciate machines and the ways in which they are put together. We repaired all sorts of things and built motorcycles and hot rods. Because of this I applied to the Rhode Island School of Design. My intention was to take up industrial design and go on to build "the car of the future". During the freshman year I realized that industrial design was primarily involved with packaging, so I ended up as a painting major in order to encompass a wider range of experience. After receiving a B.F.A. in Painting, I spent the next year in Rome studying drawing, painting, etching, and engraving with the head of the Calcogafia Nazionale, Conte Professore Carlo Alberto Petrucci.

I returned to the U.S. and went back to Vermont. The garage didn't fulfill my needs, so I found myself doing a lot of different things to keep going. I worked at various construction jobs, and for several summers was the stage manager, lighting and scenic designer for the music and dance pavilion at the Southern Vermont Art Centre.

A teaching position became available at Marlboro Vermont, and I replaced the Artist-in-Residence who was on leave of absence. I became the Head of the Art Department and taught basic design, drawing, painting, sculpture, and a bit of art history, architecture and industrial design. After a year and a half the former Artist-in-Residence returned, so I went back to the construction trades with a bit of house painting and orchard work thrown in. A job as a journeyman electrician followed, and the re-wiring of the local playhouse gave me the opportunity to work with a man who had developed an experimental electronic light dimming system.

I decided to return to Rhode Island and worked for several years as the designer for a small manufacturing firm in nearby Falls River, Massachusetts. During this time my own work was going in the direction of electronics, kinetics, and light systems, and was becoming increasingly three-dimensional. Also, I had put together a six piece traditional jazz band and was playing in a local nightclub five nights a week. This gave me enough financial independence to leave the design job, and I entered the graduate program at the School of the Museum of Fine Arts in Boston. At that time the work that I was doing didn't seem to fit neatly into a traditional category, so I was put into the Painting Department. I learned a great deal, but as there was no one who could give me assistance with the kinetic work I was doing, I decided to leave after a year.

A friend suggested that we start an antiquing business, importing 18th century Chinese Export Porcelain, English and Irish glass — mostly lighting fixtures. This was a great excuse to travel all over the world.

I was in Europe on one of these trips when I received a call from the head of Sculpture at the Rhode Island School of Design. He was familiar with the electronic/kinetic work that I was doing, and wanted me to be in the graduate program in sculpture. The first semester was frustrating as the promised facilities and technical help never materialized. The next semester I had the good fortune of taking an elective in metals with Jack Prip. Jack felt that I had the experience, interest and ability to become a metalsmith, and it was his encouragement and good advice that helped me to get clear of the antique business, the cars, the motorcycles, and the jazz band, so that I could really concentrate on metals. I was continuing my interest in teaching, as the assistant in the metals area, and as an instructor teaching form design in the R.I.S.D. Freshman Foundation. I taught form design in the R.I.S.D. Transfer Program for three years, and a metals workshop one summer as well.

After receiving an M.F.A. in sculpture, I spent the next year working independently while looking for a suitable teaching position.

I was glad that I waited, because I learned a great deal about college politics and found an ideal position at the School of the Museum of Fine Arts in Boston. J. Fred Woell had asked me to teach one of the metals workshops at Haystack that summer, which was a very inspiring time for me. I am most enthusiastic about my present teaching situation at the School of the Museum of Fine Arts. The abolition of tenure, rank in the faculty, department heads, and long term contracts has helped to get rid of regressive policies and school politics. There are three instructors in the metals area: David Austin, Yoshiko Yamamoto, and myself, which gives our students three different points of departure. We have strengthened our curricula, upgraded the facility, expanded and improved our graduate program, and have developed what we feel is a strong and positive attitude in the area.

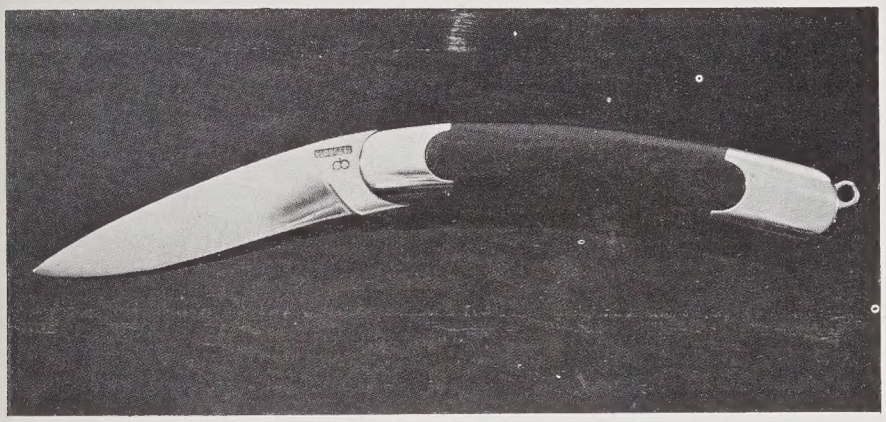
Several summers ago I visited a friend in Newfoundland. I liked it so much that I bought an old house on a point surrounded by the ocean in Trinity, Trinity Bay. I spend summers there working on the house, entertaining friends, and enjoying the ocean.

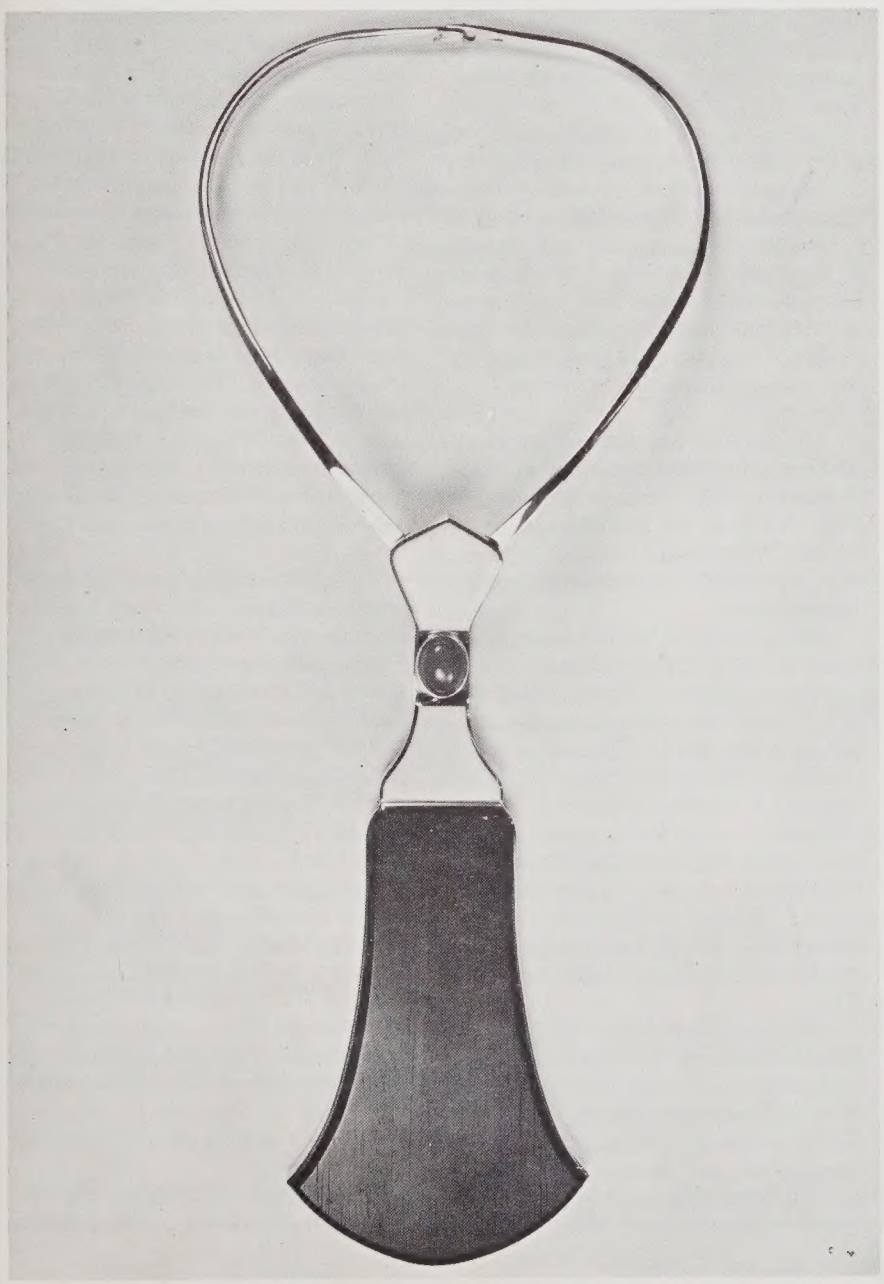
Teaching has become very important to my work, as I find that the stimulation of working with others in my field, plus the cross pollination with other disciplines, has kept me aware of what is going on both in metals and in other media as well. Being in Newfoundland all summer gives me the time and opportunity to reflect and gain perspective on my teaching responsibilities and on the direction of my work. Each of these three aspects of my life tends to support and enhance each other.

Peter Blodgett, bracelet, sterling silver, ivory, two corals, fabricated, 2½"x2¾"x2¼" deep

Peter Blodgett, "Newfoundland Knife", stainless steel, brass, delrin-fabricated, 7¾"x¾"x½" deep

Peter Blodgett, necklace, sterling silver, ebony, ivory, carnelian, fabricated, 12½"x5"x¾" deep





Because of my background, interests, and varied experience, my work doesn't seem to fit neatly into most metals categories. To those who ask me what I do, I generally reply that I like to make personal things to wear or to carry about. I tend to want to avoid labels like "sculpture", "jewelry", "crafts", as these words mean different things to most people.

Design, both graphic and sculptural, is important to me. I am not very involved with process or decoration. I try to use the process best suited to the realization of the idea, avoiding ambiguous, arbitrary, "happy accident" solutions. Much of my work is involved in the use of light and color. Things which have influenced me most are my past experiences in painting, sculpture, and design. A trip I took to Europe in 1973 to see what was going on in metals there was a revelation to me.

I use a lot of different materials in my work, but am not concerned with the intrinsic value of those materials. I use silver for its color and high reflectivity, gold for its color, durability, and working properties. I use brass, nickel, silver, bronze, stainless steel, steel, iron, titanium, wood, stone, ivory, and plastics, often in various combinations. I use these materials for logical, practical purposes, as well as for aesthetic reasons. I prefer fabrication, but use electroforming for making difficult closed forms, rather than for its decorative nodulation characteristics. I also use electroplating to get a wider range of colors. I use casting for series work, although I usually fabricate a model rather than making it in wax. Technique and process don't interest me except as a means to achieve a result.

I don't feel bound by traditional concepts, although I respect and acknowledge a definite link with the past. Visual impact is very important to me, and my interest is in developing strong personal statements. I respond best to elegance, clarity, directness, and a personal point of view.

Ralph Turner of the British Crafts Advisory Committee has said that the creative jeweler has traditionally made "extravagant souvenirs, often mindlessly paying skill's tribute to wealth and position", and that these jewelers "can match any degree of ceremony or personality and create a scale of acceptable display that ranges from the discreet to the outrageous." I feel that it is unfortunate that many artists prefer to make things of an aesthetically inferior quality because it is "safe".

I am interested in those who are willing to make their own decisions rather than following current trends or movements. This especially applies to students who are sometimes susceptible to emulating the work of their instructors, as well as tying themselves to past or present ideas or styles. Claus Bury, the German goldsmith, once told my students: "There is no substitute for time at the bench". Good craftsmanship and the development of a truly personal aesthetic can only come with experience.

It seems to me that many artists today are so concerned with the development of a style and with ingredients—craft, technique, materials, uniqueness, or in developing a particular process into their own gimmick, that they lose sight of that certain something which surprises, delights, transcends, and elevates both the maker and the viewer. I respond most to work which knocks me out and leaves me breathless by virtue of its own sense of presence; that is what I try to work toward.

APPRENTICESHIP CONFERENCE

(courtesy of Artist/Craftsmen Information Bulletin, No. 15, April 1978)

Apprenticeships in the Crafts was the subject of highly intensive debate at the conference held April 14-16 at the State University of New York, Purchase. The three days of discussion by 70 delegates and observers — intense, analytical, sometimes discursive, sometimes controversial discussion — concluded with some specific resolutions for action. The conference recommendations included: (1) dissemination of conference materials as widely and quickly as possible; (2) appointment of the existing committee, which put together the participants and agenda of the Purchase conference, as an ad hoc committee leading to a larger steering committee to implement the spirit and results of this conference; (3) transmitting through the National Endowment for the Arts the spirit and energy of the conference to the Federal Inter Agency Crafts Committee for the information of its various members; (4) endorsing as the sense of the conference the concept of apprenticeship in many forms— the latter to be put into a formal resolution by the ad hoc committee.

"The concept of apprenticeship in many forms" are key words for what was clear during the conference were the many variables to consider — in experience, in expectation, in size and kinds of studios and shops, in the inter-relationships with government and the academic community and private non-profit crafts organizations. Apprenticeships as an alternative form of education or as transition between school and life as an independent craftsperson were threads intertwined with the need to preserve and pass along traditional and individual crafts skills.

As the participants began to look for future directions, some obvious needs became clearer — to synthesize some of the information into guidelines or profiles of a multitude of possible master craftsmen apprenticeship situations, to bring together examples of problems that can arise, provide models for contractual agreements, give assistance with teaching, and document various kinds of resources inciuding funding.

With the clear go ahead for this kind of direction provided by the final resolutions, Chairman Gerry Williams was given a resounding vote of thanks. The conference's distinguished guests included Lewis Mumford as keynote speaker; James Melchert, Director, Visual Arts Program, National Endowment for the Arts; Elena Canavier, Arts Advisor to Joan Mondale; Samuel Scherr, President, American Crafts Council; Michael Hammond, President, SUNY at Purchase; Jerome Tauber, attorney, Volunteer Lawyers for the Arts; Robert Hart, Chairman of the Federal Inter Agency Craft Committee and General Manager of the Indian Arts and Crafts Board. The conference was sponsored by the American Crafts Council, Daniel Clark Fund, and SUNY, Purchase, with the support of the National Endowment for the Arts.

From the conference will come publication of a conference report, including summaries of papers presented and publication of a book, guidelines for apprenticeships, which will be based on papers from the conference — both funded by the National Endowment for the Arts.

A vast amount of information was communicated during the three days— from and about academic programs, from master craftsmen and their experience with apprentices, from apprentices themselves and their perceptions of the substance and values of their experiences. A whole evening was devoted to government and its many involvements — the minimum wage laws, fair labor standards, social security, unemployment compensation, workmen's compensation, possible exemptions to existing laws and regulations. The potential for a pilot program to be funded by the Department of Labor's Bureau of Apprenticeship and Training was discussed with Don Roffle and Ulysses Jordan from those agencies. For every regulation described — for example, minimum wage of $2.67 per hour is the law of the land — exceptions were noted and caution recommended.

MEMBERS' NEWS

Deborah Aguado, Pat Flynn, Jon Hall, Beverly Sahn and Lynda Watson participated in the exhibit "Jewelry Inspired by Nature" at the Gallery of Cont. Metalsmithing in Rochester, NY

Canneto had an exhibition at Millery Gallery, Cincinnati, OH, May 15-June 5. He is also having an exhibition at Galeries Raymond Duncan in Paris (France) June 14-July 4.

Hannelore Gabriel received an award of excellence at the Ohio Designer Craftsman 1978 Biennial Exhibition at the Columbus Institute of Fine Art. She is also represented in the Good Fellow catalog of Wonderful Things.

Nilda C. Getty gave a Forging Workshop at the Community Gallery — Arts and Science Center on May 13. It was presented by the Minnesota Museum of Art.

Bill Harper will conduct a workshop at Cal State, Northridge, on Aug. 21-25.

Richard Helzer exhibited at Montana State University, March 29-April 21.

Harold O'Connor was featured in an article entitled "Mikro-Skulpturen; Mikro-Reliefs" in the Feb. 1978 issue of "Goldschmiede Zeitung — European Jeweler". He also gave a workshop for the Arizona Designer-Craftsmen.

Natalie Paul has had two major exhibitions of her work recently: at the University of Montana in Missoula, MT, Feb. 21-March 10. She also was at Eastern Washington State U. in Cheney, WA, April 3-28, where she also gave a public lecture.

Merry Renk exhibited work in an invitational of California jewelers at California State U., Fresno, April 9-30. She also exhibited plique-a-jour pieces in another invitational at the College of Marin Kentfield, CA, "Contemporary Jewelry & Leather," March 27-April 21. Merry also gave a workshop at the Richmond Art Center, Richmond, CA, on "Folded Metal Forms", March 11-12, which was repeated May 6-7, and was sponsored by the Metal Arts Guild of San Francisco, CA.

Florence Reskinoff exhibited work in an invitational "California Jewelry/ Metalsmithing Exhibition" from Apr. 9-30 at California State U., Fresno. Florence was also elected "Head of Metals Program" at the California College of Arts & Crafts, effective May 1.

Mary Ann Scherr participated in exhibits at: Vatican Museum/Smithsonian Institution Rome"Craft: Art and Religion", 2-Person Exhibition Invitational, London Goldsmith Hall, London, England; Woman's Caucus for Art, NYC, Bronx Museum, National Tour; Western New Mexico U., Silver City, NM, "1978 Contemporary Jewelry"; The Creative Arts Workshop, Inc., National Metalsmiths Invitational", New Haven, CT; Artist/ Craftsmen of NY, 1978 Exhibition— Crafts, Union Carbide Bldg, NYC.

Mary Ann Scherr gave lectures and workshops at: Chicago Art Institute, Chicago; Arizona Designer— Craftsmen conference, Tucson; Penland School of Crafts, Penland, NC; Artists/Craftsmen of NY, Lecture "Contemporary Body Adornment," NYC; Blossom-Kent Arts Festival, Kent State U., Kent, OH; YHA/NYC, "The Art of the Craftsman" series, NYC.

Mary Ann Scherr juried at: Philadelphia Museum of Art, National Exhibition, Philadelphia; National Scholastic Competition, Ohio Regional. Mary Ann patented: Body Monitoring Jewelry, "Pulse Monitor Bracelet". She was also invited to participate in Tree Ornament, National Invitational exhibit, Washington, DC. Mary Ann will lecture in the Southwest Designer/Craftsman, San Antonio, TX.

Linda Weiss gave a workshop at Michigan State U. for Mary Lee Hu's students on "Health Hazards in the Field of Metalsmithing." In April, Linda was a workshop leader for a conference at Wayne State U. in Detroit entitled "Health Hazards in the Arts." Also in April, Linda had work in the Michigan Silversmiths Guild Exhibition in Detroit (as did Mary Lee Hu and Karen M. Thomas), as well as work in the National Metalsmiths Invitational at the Creative Arts Workshop, New Haven, CN.

Some SNAG members accepted into the Northeast Craft Fair this year include Ginny Whitney, Ross Coppelman, Ann Krupp, Jaclyn Davidson, Glenda Arentzen and Pahaka.

MEMBERSHIP APPLICATION FORM — Complete form (or Xerox copy) and mail to: SNAG, 591 Washington St., Wellesley, MA 02181.

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**NEEDED—People to write small articles and reviews. If you have a special and/or interesting subject or specialty, please write GOLDSMITHS JOURNAL so that other members can share the benefits of your knowledge. We also need information, sources, helpful hints, etc.

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